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09/852,261

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:06 ; Search time 25.1807 Seconds
(without alignments)
485.217 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCGELVDALQVCGD.....STNKTKSQRKRGSTFEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :			
A_Geneseq_032802.*			
1:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1980.DAT.*		
2:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1981.DAT.*		
3:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1982.DAT.*		
4:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1983.DAT.*		
5:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1984.DAT.*		
6:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1985.DAT.*		
7:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1986.DAT.*		
8:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1987.DAT.*		
9:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1988.DAT.*		
10:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1989.DAT.*		
11:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1990.DAT.*		
12:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1991.DAT.*		
13:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1992.DAT.*		
14:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1993.DAT.*		
15:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1994.DAT.*		
16:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1995.DAT.*		
17:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1996.DAT.*		
18:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1997.DAT.*		
19:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1998.DAT.*		
20:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1999.DAT.*		
21:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA2000.DAT.*		
22:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA2001.DAT.*		

SUMMARIES			
Result No.	Score	Query Match Length DB ID	Description
1	598	100.0	110 22 AAE02447 Human IGF-I isoform
2	572.5	95.7	111 22 AAE02449 Rabbit IGF-I isoform
3	572.5	95.7	121 18 AAW23301 Rabbit insulin like
4	560	93.6	195 8 AAP70277 Sequence of pre-pr
5	494.5	82.7	111 22 AAE02448 Rat IGF-I isoform
6	468	78.3	105 22 AAE02450 Human liver-type I
7	468	78.3	137 22 AAU09067 Human insulin-like
8	468	78.3	153 16 AAR3803 Insulin-like growth
9	468	78.3	153 19 AAW69733 Human IGF-1. Homo
10	468	78.3	153 19 AAW57882 Human IGF-I protei
11	468	78.3	156 18 AAW23302 Human insulin like

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

12	465	77.8	105 22 AAE02452 Rabbit liver-type
13	461	77.1	119 7 AAP60578 Human prepro-somat
14	459	76.8	105 22 AAE02456 Rabbit liver-type
15	459	76.8	154 14 AAR40844 Goat insulin-like
16	457.5	76.5	191 19 AAW64068 Chimeric rhIGF-I-A
17	423	70.7	105 22 AAE02451 Rat liver-type IGF
18	423	70.7	105 22 AAE02531 Rat liver-type IGF
19	412	68.9	78 21 AAY98482 Pep 17 used in nuc
20	412	68.9	78 21 AAY9027 Peptide ligand pep
21	412	68.9	78 22 AAU04272 Nuclear ligand pep
22	412	68.9	78 22 AAB45835 Nucleic acid trans
23	398	66.6	176 17 AAR88089 Rainbow trout insu
24	386	64.5	953 19 AAW56011 Recombinant botuli
25	385	64.4	70 5 AAP40034 Sequence of human
26	385	64.4	70 8 AAP70414 Sequence of oxidat
27	385	64.4	70 8 AAP71539 Sequence of human
28	385	64.4	70 10 AAR91502 New insulin-like g
29	385	64.4	70 14 AAR36846 Insulin-like growth
30	385	64.4	70 14 AAR41774 IGF-I. Homo sapi
31	385	64.4	70 14 AAR43606 Peptide derived fr
32	385	64.4	70 15 AAR48590 Human IGF-I peptid
33	385	64.4	70 15 AAR55275 Sequence of insuli
34	385	64.4	70 16 AAR75657 Human insulin-like
35	385	64.4	70 17 AAR86874 Insulin like growth
36	385	64.4	70 17 AAR87744 Wild type IGF-1 se
37	385	64.4	70 17 AAR89949 Recombinant insuli
38	385	64.4	70 18 AAW33907 Peptide derived fr
39	385	64.4	70 18 AAW12342 Human mature insul
40	385	64.4	70 21 AAB12769 Human insulin-like
41	385	64.4	70 21 AAB12772 Human insulin-like
42	385	64.4	70 21 AAB09616 Insulin like growth
43	385	64.4	70 21 AAY84871 Amino acid sequenc
44	385	64.4	70 21 AAY88577 Native human insul
45	385	64.4	70 22 AAB35948 IGF-1A amino acid

ALIGNMENTS

RESULT 1	
AAE02447	
ID AAE02447 standard; Protein; 110 AA.	
XX	
AC AAE02447;	
XX	
DT 10-AUG-2001 (first entry)	
XX	
DE Human IGF-I isoform mechano-growth factor (MGF) protein.	
XX	
KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;	
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;	
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;	
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;	
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;	
KW sex-linked muscular dystrophy; peripheral neuropathy;	
KW Alzheimer's disease; Parkinson's disease.	
XX	
OS Homo sapiens.	
XX	
PN WO200136483-A1.	
XX	
PD 25-MAY-2001.	
XX	
PF 15-NOV-2000; 2000WO-GB04354.	
XX	
PR 15-NOV-1999; 99GB-0026968.	
XX	
PA (UNLO) UNIV COLLEGE LONDON.	
XX	
PI Goldspink G, Johnson I;	
XX	
DR WPI: 2001-355620/37.	
DR N-PSDB; AAD06398.	

XX WPI: 1997-470877/43.
DR N-PSDB; AAP84893.
XX
PT Use of insulin like growth factor I characterised by presence of Ec
PT peptide - to treat humans or animals, particularly muscle disorders,
PT heart conditions or neuromuscular diseases
XX
XX Disclosure; Fig 3; 33pp; English.
XX
CC A use of insulin like growth factor I (IGF-1) has been developed, and
CC is characterised by the presence of the Ec peptide, or a functional
CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
CC Becker muscular dystrophy, autosomal dystrophies and related progressive
CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
CC heart failure or insult, specifically myocarditis or myocardial
CC infarction. It can also be used to promote bone fracture healing and
CC maintenance of bone in old age. The present sequence represents rabbit
CC IGF-1 used in the present specification.
XX
XX Sequence 121 AA;
SQ

Query Match 95.7%; Score 572.5; DB 18; Length 121;
Best Local Similarity 96.4%; Pred. No. 1.2e-51;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;
QY 1 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 11 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNTKSO-RRKGSFEEHK 110
Db 71 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKMKKSQRRRKGSFEEHK 121

RESULT 4
AAP70277
ID AAP70277 standard; protein; 195 AA.
XX
AC AAP70277;
XX
OS 05-APR-1991 (first entry)
Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).
XX
KW Growth promoter; lactation enhancer; cell proliferation.
XX
OS Homo sapiens.
XX
PN EP229750-A.
XX
PD 22-JUL-1987.
XX
PF 06-JAN-1987; 87EP-0870001.
XX
PR 20-NOV-1986; 86US-0929671.
PR 07-JAN-1986; 86US-0816662.
XX
PA (UNIW) UNIV OF WASHINGTON.
XX
PI Krivi GG, Rotwein PS;
XX
DR WPI: 1987-200203/29.
XX
XX New pre-pro-insulin-like growth factor-1 protein - obtd. by
PT recombinant DNA procedures for use as growth promoters for
PT enhancing lactation, for stimulating cell proliferation etc.
XX
PS Claim 11; Fig 6; 59pp; English.

XX
CC A 42 base oligonucleotide corresponding to the DNA sequence encoding
CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).
CC The radiolabeled 42 mer was then employed to screen for IGF-I
CC containing DNA sequences in a human liver cDNA library. Insulin-
CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
CC library by using lambda^{gt}11 (AAN70435, AAN70436). The human IGF-1
CC genomic gene was isolated and mapped. It encodes at least two
CC preproinsulin-like growth factor-1 proteins. An essentially pure
CC preproinsulin-like growth factor-1 protein comprising the sequence
CC of amino acids shown in Figure six is claimed (AAP70277).
XX
XX Sequence 195 AA;
SQ

Query Match 93.6%; Score 560; DB 8; Length 195;
Best Local Similarity 100.0%; Pred. No. 3.8e-50;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 49 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNTKSQRRKG 103
Db 109 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNTKSQRRKG 151

RESULT 5
AAE02448
ID AAE02448 standard; Protein; 111 AA.
XX
AC AAE02448;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat IGF-I isoform mechano-growth factor (MGF) protein.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Rattus sp.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI: 2001-355620/37.
DR N-PSDB; AAD06399.
XX
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Claim 4; Page 52; 66pp; English.

XX
XX The present invention relates to use of mechano-growth factor (MGF),
CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
CC isoform having extracellular (EC) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
XX
SQ Sequence 111 AA;

Query Match 82.7%; Score 494.5; DB 22; Length 111;
Best Local Similarity 85.6%; Pred. No. 1.2e-43;
Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

1 GPTLGGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

1 GPTLGGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

61 CAPLPAKSARSVRAQRHDTMPKTKSQ-RRKGSTFEHKK 110

61 CVRCKPTKSARSIRAQRHDTMPKTKSQPLSTHKKRLQRRKGSTLEEKK 111

RESULT 6

AAE02450
ID AAE02450 standard; Protein; 105 AA.

AAE02450;

10-AUG-2001 (first entry)

Human liver-type IGF-I isoform (L-IGF-I) protein.

Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
mechano-growth factor; neurological disorder; neurodegenerative disorder;
amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
sex-linked muscular dystrophy; peripheral neuropathy;
Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.

Homo sapiens.

WO200136483-A1.

25-MAY-2001.

15-NOV-2000; 2000WO-GB04354.

15-NOV-1999; 99GB-0026968.

(UNLO) UNIV COLLEGE LONDON.

Goldspink G, Johnson I;

WPI: 2001-355620/37.

N-PSDB; AAD06403.

Use of mechano-growth factor, an isoform of Insulin-like Growth
Factor-I, capable of reducing motoneurone loss, in the manufacture of a
medicament for the treatment of neurological disorder.

Disclosure; Fig 8; 66pp; English.

The present invention relates to use of mechano-growth factor (MGF),

CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human liver-type IGF-I isoform (L-IGF-I).
CC The L-IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.
XX
XX
SQ Sequence 105 AA;

Query Match 78.3%; Score 468; DB 22; Length 105;
Best Local Similarity 100.0%; Pred. No. 6.4e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 GPTLGGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

1 GPTLGGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

61 CAPLPAKSARSVRAQRHDTMPKTKQ 86

61 CAPLPAKSARSVRAQRHDTMPKTKQ 86

RESULT 7

AAU09067
ID AAU09067 standard; Protein; 137 AA.

AAU09067;

19-DEC-2001 (first entry)

Human insulin-like growth factor, IGFI.

Human; long-term memory protein; LTM; insulin-like growth factor;
neuroleptic; anticonvulsant; nootropic; neuroprotective; IGFI;
cerebroprotective; drug discovery; therapeutic profiling;
learning disability; memory impairment; brain injury; epilepsy;
mental retardation; senile dementia; Alzheimer's disease.

Homo sapiens.

WO200174298-A2.

11-OCT-2001.

02-APR-2001; 2001WO-US10661.

31-MAR-2000; 2000US-193614P.

(UYBR-) UNIV BROWN RESEARCH FOUND.

(HUGH-) HUGHES HOWARD MED INST.

Alberini CM, Bear MF;

WPI: 2001-626335/72.

N-PSDB; AAS14695.

Regulating memory consolidation in an animal comprising treating with
an agent that modulates activity of one or more genes from zif268,
insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF.

Disclosure; Page 90-91; 100pp; English.

CC The invention relates to modulating long term memory consolidation in an
 CC animal comprising treating with an agent that modulates the activity of
 CC one or more of genes from zif268, insulin-like growth factor (IGF),
 CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
 CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
 CC for identifying an agent which modulates memory consolidation. The method
 CC is useful for conducting a drug and/or target discovery business, which
 CC comprises conducting therapeutic profiling of the agents (or their
 CC analogues) identified, for efficacy and toxicity in animals, and
 CC formulating a pharmaceutical preparation including one or more agents
 CC identified as having an acceptable therapeutic profile and/or licensing
 CC to a third party the rights for further drug development of the
 CC identified agents. The method of conducting drug discovery business
 CC further comprises an additional step of establishing a distribution
 CC system for distributing the preparation for sale and may optionally
 CC include establishing a sales group for marketing the preparation. A
 CC pharmaceutical composition containing the agent is useful for enhancing
 CC memory consolidation in an animal, or for augmenting learning and memory,
 CC or otherwise for enhancing the functional performance of central nervous
 CC system neurons, where the agent is a cAMP elevating agent (agonist)
 CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
 CC activates adenylyl cyclase. The composition is useful for treating
 CC diseases associated with learning disabilities, memory impairment e.g.
 CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
 CC children and senile dementia, including Alzheimer's disease. The
 CC present sequence represents human insulin-like growth factor, IGF1.

XX Sequence 137 AA;

Query Match 78.3%; Score 468; DB 22; Length 137;
 Best Local Similarity 100.0%; Pred. No. 8.5e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 Db 33 GPTETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92
 QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
 Db 93 CAPLPAKSARSVRAQRHTDMPKTQK 118

RESULT 8

AAR83803

ID AAR83803 standard; protein; 153 AA.

AAR83803;

DT 15-FEB-1996 (first entry)

DE Insulin-like growth factor 1.

XX Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
 KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
 KW burn; wound; brain metastasis.

XX Homo sapiens.

XX Key Location/Qualifiers
 FH Peptide 49..118
 FT /label= mature peptide
 FT Domain 49..77
 FT /label= B domain
 FT Domain 78..89
 FT /label= C domain
 FT Domain 90..110
 FT /label= A domain
 FT Domain 111..118
 FT /label= D domain

XX WO9516703-A1.

PN 22-JUN-1995.

PD

XX 15-DEC-1994; 94WO-US14576.
 XX 15-DEC-1993; 93US-0167653.
 PR (UYJE-) UNIV JEFFERSON THOMAS.

XX Baserga R, Jameson BA;

XX WPI; 1995-231515/30.

XX New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
 PT in treatment of diseases associated with undesirable cell
 PT proliferation

XX Disclosure; Page 20-21; 28pp; English.

XX The amino acid sequence of the insulin-like growth factor 1 pre-protein.
 CC Processing of the protein results in a 70 amino acid mature protein. The
 CC mature protein is split into 4 domains: the B domain has strong homology
 CC to the B chain of insulin, the A domain similarly has homology to the A
 CC chain of insulin. These domains are separated by a C domain and the D
 CC domain sequence is terminated by a D domain at the C-terminus. The D
 CC domain sequence was used to synthesize peptides (AAR83801-2) that
 CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
 CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
 CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
 CC Activated IGF-1R is associated with cellular growth and proliferation.
 CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
 CC IGF-1R and thus may be used in the treatment of disorders characterised
 CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
 CC wounds or brain metastases.

XX Sequence 153 AA;

Query Match 78.3%; Score 468; DB 16; Length 153;
 Best Local Similarity 100.0%; Pred. No. 9.5e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 Db 49 GPTETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86

Db 109 CAPLPAKSARSVRAQRHTDMPKTQK 134

RESULT 9

AAR69733

ID AAR69733 standard; Protein; 153 AA.

XX AAR69733;

DT 26-OCT-1998 (first entry)

XX Human IGF-1.

XX Human; IGF-1; insulin-like growth factor 1; urinary incontinence;
 KW gene therapy; neurotrophic factor.

XX Homo sapiens.

XX WO9833529-A1.

XX 06-AUG-1998.

XX 04-FEB-1998; 98WO-US02051.

XX 04-FEB-1997; 97US-0036862.

XX (GENE-) GENEMEDICINE INC.

XX

PI Coleman M;
XX WPI; 1998-437184/37.
DR N-PSDB; AAV50425.
XX
PT Treatment of urinary incontinence - by delivering nucleic acid
PT vector for expression of growth factor or neurotrophic factor in
PT tissue(s)
XX
PS Claim 128; Page 108-109; 117pp; English.
XX
CC A method has been developed of treating urinary incontinence (UI) in
CC mammals. The method comprises delivering a nucleic acid vector for the
CC expression of a growth factor or neurotrophic factor in a tissue or
CC tissues. The present sequence represents human IGF-1 (insulin-like
CC growth factor 1) which is used in the method of the invention. Due to
CC the growth and stimulatory effects of growth factors and neurotrophic
CC factors, introducing these factors to degenerated muscles in the
CC urinary system can improve UI by enhancing both their integrity and
CC neural innervation.
XX
SQ Sequence 153 AA;
Query Match 78.3%; Score 468; DB 19; Length 153;
Best Local Similarity 100.0%; Pred. No. 9.5e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 49 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKSARSVRAQRHTDMPKTQK 134
RESULT 10
AAW57882
ID AAW57882 standard; Protein; 153 AA.
XX
AC AAW57882;
XX
DT 23-SEP-1998 (first entry)
XX
DE Human IGF-I protein.
XX
KW IGF-I; Insulin-like growth factor I; skeletal alpha-actin gene promoter;
KW muscle atrophy; diabetes; osteoporosis; growth disorder; therapy; AIDS;
KW Chacot-marie-tooth disease; atherogenesis; haemophilia; neuropathy.
XX
OS Homo sapiens.
XX
WN WO9824922-A1.
XX
PD 11-JUN-1998.
XX
PF 01-DEC-1997; 97WO-US21852.
XX
PR 19-NOV-1997; 97US-0974572.
PR 02-DEC-1996; 96US-0031539.
XX
XX (BAYU) BAYLOR COLLEGE MEDICINE.
PA (GENE-) GENEMEDICINE INC.
XX
XX Coleman M, Demayo FJ, Schwartz R;
PI
XX WPI; 1998-333339/29.
DR N-PSDB; AAV40793, AAV40794.
XX
XX New vector for expression of insulin-like growth factor-I -
PT containing a skeletal alpha-actin gene promoter, IGF-I coding
PT sequences and a 3' region from growth hormone 3'-UTR
XX

PS Disclosure: Fig 13; 115pp; English.
XX
CC This sequence is the human insulin-like growth factor I (IGF-I). The
CC DNA can be used in the vector of the invention, for expression of a
CC nucleic acid sequence in a cell, which comprises: (a) a nucleic acid
CC cassette containing a sequence encoding IGF-I; (b) a 5' flanking region
CC including one or more sequences necessary for expression of the nucleic
CC acid cassette, including a promoter from a skeletal alpha-actin gene;
CC (c) a linker connecting the 5' flanking region to a nucleic acid, the
CC linker having a position for inserting the nucleic acid cassette, and
CC lacking the coding sequence of a gene with which it is naturally
CC associated; and (d) a 3' flanking region, including a 3' untranslated
CC region or a 3' non coding region or both, where the 3' flanking region is
CC 3' to the position for inserting the nucleic acid cassette and comprises
CC a sequence from a growth hormone 3'-UTR. The vector can provide for
CC efficient IGF-I expression, particularly in gene therapy. It can be used
CC for the delivery of IGF-I for treating diseases such as muscle atrophy,
CC diabetes, neuropathy, osteoporosis, and growth disorders. They can be
CC used for treating peripheral neuropathies resulting from diabetes,
CC genetic disease such as Type I or Type II diabetes, genetic disease such
CC as Chacot-marie-tooth disease, AIDS, atherogenesis, atherosclerotic,
CC cardiovascular, cerebrovascular, or peripheral vascular disease,
CC haemophilia, inflammation and side-effects from anti-cancer and
CC anti-viral drugs. The vectors can also be used to create transgenic
CC animals for research or livestock improvement.
XX
SQ Sequence 153 AA;
Query Match 78.3%; Score 468; DB 19; Length 153;
Best Local Similarity 100.0%; Pred. No. 9.5e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 49 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKSARSVRAQRHTDMPKTQK 134
RESULT 11
AAW23302
ID AAW23302 standard; Protein; 156 AA.
XX
AC AAW23302;
XX
DT 14-APR-1998 (first entry)
XX
DE Human insulin like growth factor 1 Ea isoform.
XX
KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
KW heart; neuromuscular disease.
XX
OS Homo sapiens.
XX
XX WO9733997-A1.
PN 18-SEP-1997.
XX
PD 11-MAR-1997; 97WO-GB00658.
PF 11-MAR-1996; 96GB-0005124.
PR 11-MAR-1996; 96GB-0005124.
XX
XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
XX
XX Goldspink G;
PI
XX WPI; 1997-470877/43.
DR N-PSDB; AAT84894.
XX
XX Use of insulin like growth factor I characterised by presence of Ec
PT peptide - to treat humans or animals, particularly muscle disorders,
PT

PT heart conditions or neuromuscular diseases
 XX Disclosure; Fig 4; 33pp; English.
 XX A use of insulin like growth factor I (IGF-I) has been developed, and is characterised by the presence of the Ec peptide, or a functional equivalent, in the treatment or therapy of a human or animal. The IGF-1 polypeptide can be used to treat muscular disorders, e.g. Duchenne or Becker muscular dystrophy, autosomal dystrophies and related progressive skeletal muscle weakness and wasting, muscle atrophy in ageing humans, spinal cord injury induced muscle atrophy and neuromuscular diseases, and cardiac disorders, e.g. diseases where promotion of cardiac muscle protein synthesis is a beneficial treatment, cardiomyopathies and acute heart failure or insult, specifically myocarditis or myocardial infarction. It can also be used to promote bone fracture healing and maintenance of bone in old age. The present sequence represents human IGF-1 Ea isoform used in the present specification.

Sequence 156 AA;
 Query Match 78.3%; Score 468; DB 18; Length 156;
 Best Local Similarity 100.0%; Pred. No. 9.7e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLLEY 60
 DB 52 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLLEY 111
 QY 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 DB 112 CAPLKPAKSARSVRAQRHTDMPKTQK 137

RESULT 12
 AAE02452
 ID AAE02452 standard; Protein; 105 AA.
 XX AAE02452;
 XX 10-AUG-2001 (first entry)
 XX Rabbit liver-type IGF-I isoform (L-IGF-I) protein.
 XX Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder; amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy; poliomyelitis; post-polio syndrome; toxin; motoneurone disorder; nerve damage; autosomal muscular dystrophy; diabetic neuropathy; sex-linked muscular dystrophy; peripheral neuropathy; Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.

KW Oryctolagus cuniculus.
 XX WO200136483-A1.
 XX 25-MAY-2001.
 XX 15-NOV-2000; 2000WO-GB04354.
 XX 15-NOV-1999; 99GB-0026968.
 XX (UNLO) UNIV COLLEGE LONDON.
 XX Goldspink G, Johnson I;
 XX WPI: 2001-355620/37.
 DR N-PSDB; AAD06405.
 XX Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I, capable of reducing motoneurone loss, in the manufacture of a medicament for the treatment of neurological disorder -
 PS Disclosure; Page 60-61; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a medicament for the treatment of neurological disorder. The MGF is capable of reducing motoneurone loss by 20% or greater in response to nerve avulsion, and effects motoneurone rescue, preferably adult motoneurone rescue. The MGF polynucleotide and polypeptide are useful in the manufacture of a medicament for the treatment of a neurological disorder, including a disorder of motoneurons and/or neurodegenerative disorder, e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive spinal muscular atrophy, infantile or juvenile muscular atrophy, poliomyelitis or post-polio syndrome, a disorder caused by exposure to a toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an injury that affects motoneurons, motoneurone loss associated with aging, autosomal or sex-linked muscular dystrophy, diabetic neuropathy, peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The present sequence is rabbit liver-type IGF-I isoform (L-IGF-I).
 CC The L-IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 6
 CC Note: The present sequence (SEQ ID NO: 14) is stated as being the
 CC same as that shown in figure 10 (AAE02456) of the specification. However
 CC it differs at few positions.
 XX Sequence 105 AA;
 SQ

Query Match 77.8%; Score 465; DB 22; Length 105;
 Best Local Similarity 98.8%; Pred. No. 1.3e-40;
 Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLLEY 60
 DB 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLLEY 60
 QY 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
 DB 61 CAPLKPAKSARSVRAQRHTDMPKTQK 86

RESULT 13
 AAP60578
 ID AAP60578 standard; Protein; 119 AA.
 XX AAP60578;
 XX 31-JUL-1991 (first entry)
 DT Human prepro-somatomedin-C.
 DE Human prepro-somatomedin-C.
 DE Somatomedin-C.
 KW Somatomedin-C.
 XX

FH Key Location/Qualifiers
 FT Protein 1..119 /label= prepro-somatomedin-C
 FT Protein 15..84 /label= mature somatomedin-C
 FT WO8600619-A.
 PN 30-JAN-1986.
 XX 10-JUL-1985; 85WO-US01325.
 XX 13-JUL-1984; 84US-0630557.
 XX (CHIR-) CHIRON CORP.
 XX Bell G, Rall LB, Merryweather JP;
 XX WPI; 1986-042104/06.
 DR N-PSDB; AAN60490.
 XX Pre-pro insulin-like growth factors I and II - obtd. from the
 PT human genome by e.g. screening a cDNA library obtd. from human

PT liver cells.
XX
PS Disclosure; Fig 1; 20pp; English.
XX
XX The sequence is human prepro-somatostatin-C. DNA probes
CC prepared against DNA encoding the protein sequence may be used to
CC detect the presence of the genes in a natural source. The probes
CC may be used to detect mutations and/or deletions in humans
CC suffering from growth deficiencies.
CC See also AAN60489, AAN60491
XX
XX Sequence 119 AA;
Query Match 77.1%; Score 461; DB 7; Length 119;
Best Local Similarity 98.8%; Pred. No. 3.8e-40;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 GPTTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 60
DB 15 GPTTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 74
QY 61 CAPLPAKSAARSVRQRHTDMPKTK 86
75 CAPLPAKSAARSVRQRHTDMPKTK 100
RESULT 14
ID AAE02456 standard; Protein; 105 AA.
XX AAE02456;
XX 10-AUG-2001 (first entry)
XX Rabbit liver-type IGF-I isoform (L-IGF-I) protein, alternative version.
DE
XX Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.
XX
OS Oryctolagus cuniculus.
EH Key Location/Qualifiers
FT Misc-difference 3 /note= "Encoded by GAG"
FT Misc-difference 9 /note= "Encoded by GAG"
XX
XX WO200136483-A1.
XX
XX 25-MAY-2001.
XX
XX 15-NOV-2000; 2000WO-GB04354.
XX
XX 15-NOV-1999; 99GB-0026968.
XX
XX (UNLO) UNIV COLLEGE LONDON.
XX
XX Goldspink G, Johnson I;
XX
XX WPI: 2001-355620/37.
XX N-PSDB; AAD06405.
XX
XX Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
XX Disclosure; Fig 10; 66pp; English.
XX

CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is alternative version of rabbit liver-type IGF-I
CC isoform (L-IGF-I). The L-IGF-I protein comprises amino acid sequences
CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
CC Note: The present sequence is stated as being the same as SEQ ID NO:14
CC shown in sequence listing (AAE02452) of the specification. However
CC it differs at few positions.
XX
XX Sequence 105 AA;
Query Match 76.8%; Score 459; DB 22; Length 105;
Best Local Similarity 96.5%; Pred. No. 5.4e-40;
Matches 83; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 60
DB 1 GPTTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 60
QY 61 CAPLPAKSAARSVRQRHTDMPKTK 86
DB 61 CAPLPAKSAARSVRQRHTDMPKTK 86
RESULT 15
ID AAR40844 standard; Protein; 154 AA.
XX AAR40844;
XX 03-MAR-1994 (first entry)
XX Goat Insulin like growth factor 1 (IGF-I) precursor.
XX Insulin; growth factor; bone; tumour therapy.
XX Capra hircus.
XX JP05199878-A.
XX 10-AUG-1993.
XX 02-DEC-1991; 91JP-0347820.
XX 02-DEC-1991; 91JP-0347820.
XX (KOMA/) KOMANO T.
XX WPI: 1993-284680/36.
XX N-PSDB; AAQ47804.
XX
XX Goat insulin-like growth factor I - useful for prepn. of
PT insulin-like growth factor I used for growth of bone and tumour
PT therapy
XX
XX Claim 2; Figure 1; 6pp; Japanese.
XX
XX The goat IGF precursor is useful for the preparation of IGF-1 which
CC is used for growth of bone and the therapy of tumours. The IGF-1
CC precursor is prepared by inserting the coding sequence into an

CC expression vector, transforming a host cell with the expression
 CC vector, culturing the transformed cell and retrieving the IGF-1
 CC precursor from the culture supernatant.

XX
 SQ Sequence 154 AA;

Query Match 76.8%; Score 459; DB 14; Length 154;
 Best Local Similarity 97.7%; Pred No. 8.2e-40;
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
 |||||
 Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 109
 |||||
 QY 61 CAPLPAKSARSVRAQRHTDMPKQK 86
 |||||
 Db 110 CAPLPAKSARSVRAQRHTDMPKQK 135

Search completed: October 25, 2002, 15:57:09
 Job time : 27.1807 secs

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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:52 ; Search time 9.93976 Seconds
(without alignments)
270.310 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCGAELVDALQFVCGD.....STNKNTKSQRKRGSTFEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

rchd: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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2: /cgn2.6/ptodata/1/iaa/5B_COMB.pep.*
3: /cgn2.6/ptodata/1/iaa/6A_COMB.pep.*
4: /cgn2.6/ptodata/1/iaa/6B_COMB.pep.*
5: /cgn2.6/ptodata/1/iaa/PCTUS_COMB.pep.*
6: /cgn2.6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	572.5	95.7	121	4	US-09-142-583A-4
2	468	78.3	137	1	US-07-953-230A-10
3	468	78.3	152	3	US-08-950-720A-9
4	468	78.3	153	1	US-08-219-878A-1
5	468	78.3	153	5	PCT-US93-04329-1
6	468	78.3	156	4	US-09-142-583A-11
7	461	77.1	119	6	5405942-1
8	457.5	76.5	191	3	US-08-989-251-41
9	457.5	76.5	191	3	US-09-340-250-41
10	457.5	76.5	191	4	US-09-528-108-41
11	412	68.9	78	2	US-08-460-890A-47
12	412	68.9	78	3	US-08-167-641C-47
13	412	68.9	78	4	US-08-460-971A-47
14	412	68.9	78	4	US-08-462-040-47
15	398	66.6	176	1	US-07-953-230A-9
16	385	64.4	70	1	US-07-947-035-1
17	385	64.4	70	1	US-07-776-272-17
18	385	64.4	70	1	US-07-958-903A-17
19	385	64.4	70	1	US-08-462-018-17
20	385	64.4	70	1	US-08-823-245-17
21	385	64.4	70	1	US-08-482-271-1
22	385	64.4	70	3	US-09-080-120A-1
23	385	64.4	70	3	US-08-432-517-1
24	385	64.4	70	4	US-07-963-329A-1
25	385	64.4	70	5	PCT-US92-09443A-1
26	385	64.4	70	5	PCT-US93-11458-1
27	385	64.4	70	5	PCT-US95-08925-1

28	385	64.4	94	1	US-07-989-845-28	Sequence 28, Appl
29	385	64.4	94	1	US-07-989-844-12	Sequence 12, Appl
30	385	64.4	94	1	US-08-161-044-12	Sequence 12, Appl
31	385	64.4	94	1	US-08-240-121-12	Sequence 12, Appl
32	385	64.4	94	1	US-08-451-241-12	Sequence 12, Appl
33	385	64.4	94	5	PCT-US93-11297-12	Sequence 12, Appl
34	385	64.4	94	5	PCT-US93-11298-28	Sequence 28, Appl
35	385	64.4	118	3	US-09-029-267-14	Sequence 14, Appl
36	385	64.4	155	1	US-08-328-961-8	Sequence 8, Appl
37	385	64.4	155	1	US-08-462-397-8	Sequence 39, Appl
38	385	64.4	155	3	US-08-989-251-39	Sequence 39, Appl
39	385	64.4	155	3	US-09-340-250-39	Sequence 39, Appl
40	385	64.4	155	4	US-09-528-108-39	Sequence 39, Appl
41	382	63.9	70	1	US-08-180-572-5	Sequence 5, Appl
42	380	63.5	83	1	US-07-947-035-18	Sequence 18, Appl
43	380	63.5	83	1	US-08-321-585A-12	Sequence 12, Appl
44	377	63.0	70	6	5470828-1	Patent No. 5470828
45	376	62.9	70	1	US-07-654-611-2	Sequence 2, Appl

ALIGNMENTS

RESULT 1
US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: US/09/142.583A
; APPLICATION NUMBER: US/09/142.583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

Query Match 95.7%; Score 572.5; DB 4; Length 121;
Best Local Similarity 96.4%; Pred. No. 1.3e-60;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;
QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 60

Db 11 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQ-RRKGSTPEEHK 110
Db 71 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRRKGSTPEEHK 121

RESULT 2

US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMBLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."

US-07-953-230A-10

Query Match 78.3%; Score 468; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 3.7e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
Db 93 CAPLKPAKSARSVRAQRHTDMPKTK 118

RESULT 3

US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.
; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
; US-08-950-720A-9

Query Match 78.3%; Score 468; DB 3; Length 152;
Best Local Similarity 100.0%; Pred. No. 4.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82

QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86

Db 83 CAPLKPAKSARSVRAQRHTDMPKTK 108

RESULT 4

US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris

STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/219,878A
FILING DATE: 30-MAR-1994
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/881,524
FILING DATE: 08-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-1240
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: amino acid
TOPOLOGY: linear
US-08-219-878A-1

Query Match 78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
DB 49 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 108
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
|||||
DB 109 CAPLPAKSARSVRAQRHTDMPKTQK 134
|||||

RESULT 5
PCT-US93-04329-1
Sequence 1, Application PC/TUS9304329
GENERAL INFORMATION:
APPLICANT: Bradford A. Jameson and Renato Baserga
TITLE OF INVENTION: IGF-1 Analogs
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn
ADDRESSEE: Kurtz Mackiewicz & Norris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04329
FILING DATE: 19930507
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/881,524
FILING DATE: 08-MAY-92
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca

REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-0649
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US93-04329-1

Query Match 78.3%; Score 468; DB 5; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
DB 49 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 108
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
|||||
DB 109 CAPLPAKSARSVRAQRHTDMPKTQK 134
|||||

RESULT 6
US-09-142-583A-11
Sequence 11, Application US/09142583A
Patent No. 6221842
GENERAL INFORMATION:
APPLICANT: GOLDSPIK, GEOFFREY
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22201
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/142,583A
FILING DATE: 29-Oct-1998
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB97/00658
FILING DATE: 11-MAR-1997
APPLICATION NUMBER: GB 9605124.8
FILING DATE: 11-MAR-1996
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36663
REFERENCE/DOCKET NUMBER: 117-263
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164000
TELEFAX: 7038164100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 156 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

Query Match 78.3%; Score 468; DB 4; Length 156;
Best Local Similarity 100.0%; Pred. No. 4.3e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
Db 52 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 111
Qy 61 CAPLKPAKSARSVRAQRHTDMPKTOK 86
Db 112 CAPLKPAKSARSVRAQRHTDMPKTOK 137

RESULT 7
5405942-1
; Patent No. 5405942
; APPLICANT: BELL, GRAEME I.; RALL, LESLIE B.; MERRYWEATHER,
; JAMES P.
; TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS
; I AND II
; NUMBER OF SEQUENCES: 16
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/65,673
; FILING DATE: 16-JUN-1987
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 630,557
; FILING DATE: 19-JUL-1984
; SEQ ID NO:1:
; LENGTH: 119
5405942-1

Query Match 77.1%; Score 461; DB 6; Length 119;
Best Local Similarity 98.8%; Pred. No. 2.le-47;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
Db 15 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 74
Qy 61 CAPLKPAKSARSVRAQRHTDMPKTOK 86
Db 75 CAPLKPAKSARSVRAQRHTDMPKTOK 100

RESULT 8
US-08-989-251-41
; Sequence 41, Application US/08989251
; Patent No. 601731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175

```

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTK 172
|||||

RESULT 10

US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seitzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC Compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/528,108
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; 09-528-108-41

Query Match 76.5%; Score 457.5; DB 4; Length 191;
Best Local Similarity 98.9%; Pred. No. 9.7e-47;
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPTLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
Db 86 GPTLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 145
QY 61 CAPLPAKSA-RSVRAQRHTDMPKTK 86
Db 146 CAPLPAKSAKRSVRAQRHTDMPKTK 172

RESULT 11

US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-890A-47

Query Match 68.9%; Score 412; DB 2; Length 78;
Best Local Similarity 97.4%; Pred. No. 8e-42;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEYCAP 63
Db 2 TLGGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEYCAP 61
QY 64 LKPAKSAKRSVRAQRHTD 80
Db 62 LKPAKSAKRSVRAQRHTD 78

RESULT 12

US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.

APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 212/078
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-462-040-47

Query Match 68.9%; Score 412; DB 4; Length 78;
Best Local Similarity 97.4%; Pred. No. 8e-42;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEALVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMYCAP 63
|||||
DB 2 TLGAEALVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMYCAP 61
|||||
QY 64 LKPAKSARSVRAQRHTD 80
|-|-|
DB 62 LRPARSARSVRAQRHTD 78
|-|-|

RESULT 15
US-07-953-230A-9
Sequence 9, Application US/07953230A
Patent No. 5476779
GENERAL INFORMATION:
APPLICANT: CHEN, Thomas T
APPLICANT: SHAMLOTT, Michael J
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
TITLE OF INVENTION: FROM RAINBOW TROUT
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Burns, Doane, Swecker & Mathis
STREET: George Mason Bldg., Washington & Prince Sts.
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/953,230A
FILING DATE: 30-SEP-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Crane-Feury, Sharon E
REGISTRATION NUMBER: 36,113
REFERENCE/DOCKET NUMBER: 028755-010
TELEPHONE: (703) 836-6620
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 176 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: protein
US-07-953-230A-9

Query Match 66.6%; Score 398; DB 1; Length 176;
Best Local Similarity 62.8%; Pred. No. 9.9e-40;
Matches 76; Conservative 10; Mismatches 19; Indels 16; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMY 60
|||||
DB 45 GPETLCGAELVDLTQFVCGERGFYFSKPTGYGFSRRSHNRGIVDECCFQSCGLRLRLMY 104
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTKY-----QPSTNKNKTSQRRKGS 104
|||||
DB 105 CAPVKSAGKAARSVRAQRHTDMPRTPKVSTAVOSVDGRTERRTAQHDPKTKPKKEVHQKNS 164
|||||
QY 105 T 105
DB 165 S 165

Search completed: October 25, 2002, 16:00:04
Job time : 10.9398 secs ;

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:02 ; Search time 12.5904 Seconds
(without alignments)
839.517 Million cell updates/sec

Title: US-09-852-261-2

Perfect score: 598

Sequence: 1 GPETLGAELVDALQFVCGD.....STNKNTKSQRKKGSTFEEHK 110

Scoring table:
BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : PIR_71.*

1: pir1.*

2: pir2.*

3: pir3.*

4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	560	93.6	195	1 IGHUIB	insulin-like growth
2	521.5	87.2	159	2 A26859	insulin-like growth
3	503.5	84.2	133	2 A40912	insulin-like growth
4	494	82.6	181	2 A27804	insulin-like growth
5	468	78.3	137	1 IGPPI	insulin-like growth
6	468	78.3	137	2 A36552	insulin-like growth
7	468	78.3	153	1 IGHI1	insulin-like growth
8	464.5	77.7	153	2 S12825	insulin-like growth
9	463	77.4	122	2 PN0622	insulin-like growth
10	463	77.4	153	1 IGB01	insulin-like growth
11	459	76.8	154	2 J22483	insulin-like growth
12	455	76.1	138	2 SC2878	insulin-like growth
13	455	76.1	154	2 A33390	insulin-like growth
14	450	75.3	153	2 B27804	insulin-like growth
15	447	74.7	127	2 A25540	insulin-like growth
16	432	72.2	127	2 B40912	insulin-like growth
17	422	70.6	153	2 A41399	insulin-like growth
18	419.5	70.2	153	2 A36079	insulin-like growth
19	403.5	67.5	161	2 C54270	insulin-like growth
20	401	67.1	155	2 A44012	insulin-like growth
21	401	67.1	176	2 A41396	insulin-like growth
22	401	67.1	188	2 A54270	insulin-like growth
23	401	67.1	188	2 B54270	insulin-like growth
24	399	66.7	149	2 D54270	insulin-like growth
25	398	66.6	176	2 A64244	insulin-like growth
26	298.5	49.9	126	2 S66485	insulin-like growth
27	293	49.0	193	2 A53697	insulin-like growth
28	264.5	44.2	214	2 B46244	insulin-like growth
29	248.5	41.6	187	2 T10897	insulin-like growth

RESULT 1

IGHUIB

insulin-like growth factor I precursor, splice form B [validated] - human

N:Alternate names: IGF-IB; somatomedin C

C:Contains: insulin-like growth factor IB-E1 amide

C:Species: Homo sapiens (man)

C>Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000

C:Accession: A01611; A26181; S30540; B48960; A42664

R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.

J. Biol. Chem. 261, 4828-4832, 1986

A>Title: Organization and sequence of the human insulin-like growth factor I gene. Al

A:Reference number: A92581; MUID:86168194

A:Accession: A01611

A:Molecule type: DNA

A:Residues: 1-195 <R071>

A:Cross-references: GB:M41455; NID:gl83106; PIDN:AAA52537.1; PID:gl83109

R:Rotwein, P.

A>Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver

Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986.

A:Reference number: A26181; MUID:86094355

A:Accession: A26181

A:Molecule type: mRNA

A:Residues: 1-195 <R072>

A:Cross-references: GB:M11568; NID:gl83111; PIDN:AAA52539.1; PID:gl83112

R:Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.

submitted to the EMBL Data Library, November 1990

A>Description: Nucleotide sequence of the human fetal brain IGF-1b.

A:Reference number: S30540

A:Accession: S30540

A:Molecule type: mRNA

A:Residues: 1-195 <S4N>

A:Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992

R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H

Cancer Res. 53, 2475-2478, 1993

A>Title: Characterization of insulin-like growth factor 1 in human primary brain tumor

A:Reference number: A48960; MUID:93265440

A:Accession: B48960

A:Molecule type: mRNA

A:Residues: 1-195 <S4>

A:Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992

A:Experimental source: anaplastic oligodendroglioma

A>Note: sequence modified after extraction from NCBI backbone

A>Note: the authors translated the codon CAG for residues 124 and 133 as Glu

A>Note: sequence extracted from NCBI backbone (NCBIN:133058)

R:Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitt

Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992

A>Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin

A:Reference number: A42664; MUID:92390398

A:Contents: annotation: IBE-1; amidated carboxyl end

C:Comment: For an alternative splice form, see PIR:IGHUI.

C:Genetics:

A:Gene: GDB:IGFI

A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status predicted <MAT>
F:49-77/Domain: insulin chain B-like #status predicted <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:90-110/Domain: insulin chain A-like #status predicted <CHA>
F:111-118/Domain: D peptide #status predicted <CHD>
F:119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:151-172/Product: insulin-like growth factor IB-E1 amide #status predicted <MA2>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted
F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 93.6%; Score 560; DB 1; Length 195;
Best Local Similarity 100.0%; Pred. No. 4.6e-51;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTQYQPPSTNKNTKSORRKG 103
|||||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQYQPPSTNKNTKSORRKG 151
|||||

RESULT 2
A26859
insulin-like growth factor IB precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C:Accession: A26859
R:Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A:Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5'
A:Reference number: A26859; MUID:88015572
A:Accession: A26859
A:Molecule type: mRNA
A:Residues: 1-159 <SHI>
A:Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID:g56424
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor

Query Match 87.2%; Score 521.5; DB 2; Length 159;
Best Local Similarity 89.2%; Pred. No. 3.9e-47;
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTQYQPPSTNKNTKSO-RRKGSTFEHK 110
|||||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTQSQPLSTHKKRKLQRRRKGSTLEEHL 159
|||||

RESULT 3
A40912
insulin-like growth factor I precursor form 1 - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: A40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonuc
c tissues.
A:Reference number: A40912; MUID:88288198
A:Accession: A40912
A>Status: preliminary

A:Molecule type: mRNA
A:Residues: 1-133 <ROB>
A:Cross-references: GB:M15480; NID:g204749; PIDN:AAAA1385.1; PID:g204750
C:Superfamily: insulin

Query Match 84.2%; Score 503.5; DB 2; Length 133;
Best Local Similarity 86.5%; Pred. No. 2.5e-45;
Matches 96; Conservative 2; Mismatches 12; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 82
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTQYQPPSTNKNTKSO-RRKGSTFEHK 110
|||||
Db 83 CVRCKPTKSARSIRAQRHTDMPKTQSQPLSTHKKRKLQRRRKGSTLEEHL 133
|||||

RESULT 4
A27804
insulin-like growth factor I precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C:Accession: A27804; I65202
R:Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,
R:Shimatsu, A.; Rotwein, P.
A:Reference number: A27804; MUID:87222423
A:Accession: A27804
A>Status: preliminary
A:Molecule type: DNA
A:Residues: 1-181 <SHI>
A:Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R:Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A:Reference number: I52218; MUID:87298353
A:Accession: I65202
A>Status: preliminary; translated from GB/EMBL/DBDJ
A:Molecule type: mRNA
A:Residues: 1-27 <RES>
A:Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C:Superfamily: insulin
C:Keywords: alternative splicing

Query Match 82.6%; Score 494; DB 2; Length 181;
Best Local Similarity 84.4%; Pred. No. 3.3e-44;
Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTQYQPPSTNKNTKSORRKGSTFEH 109
|||||
Db 109 CAPLKPAKSARSIRAQRHTDMPKTQSQPLSTHKKRKLQRRRKGSKAH 157
|||||

RESULT 5
IGGP1
insulin-like growth factor I precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C:Accession: S12719
R:Bell, G.I.; Stampien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A:Title: Sequence of a cDNA encoding guinea pig IGF-I.
A:Reference number: S12719; MUID:90332447
A:Accession: S12719
A:Molecule type: mRNA
A:Residues: 1-137 <BEL>
A:Cross-references: EMBL:X52951
A>Note: it is uncertain whether Met-1 or Met-8 is the initiator

C:Superfamily: insulin
C:Keywords: glycoprotein; growth factor; plasma
F:1-32/Domain: signal sequence #status predicted <SIG>
F:33-102/Product: insulin-like growth factor I #status predicted <MAT>
F:33-61/Domain: insulin chain B-like #status predicted <CHB>
F:62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:74-94/Domain: insulin chain A-like #status predicted <CHA>
F:95-102/Domain: D peptide #status predicted <CHD>
F:103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 78.3%; Score 468; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.3e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTTLCGAELVDALQFVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
33 GPTTLCGAELVDALQFVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 92
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLKPAKSARSVRAQRHTDMPKTKQ 118
|||||

RESULT 6
A36552
insulin-like growth factor la precursor - human
C:Species: Homo sapiens (man)
C:Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
C:Accession: A36552
R:Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
Mol. Endocrinol. 4, 1914-1920, 1990
A:Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal
A:Reference number: A36552; MUID:911187000
A:Accession: A36552
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-137 <TOB>
A:Cross-references: GB:M37484; NID:g184833; PIDN:AAAS22789.1; PID:g184834
C:Superfamily: insulin

Query Match 78.3%; Score 468; DB 2; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.3e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTTLCGAELVDALQFVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
33 GPTTLCGAELVDALQFVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 92
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLKPAKSARSVRAQRHTDMPKTKQ 118
|||||

RESULT 7
IGHU1
insulin-like growth factor I precursor, splice form A [validated] - human
N:Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A92581; A93321; J00571; A23622; A92226; A60483; S30519; A48960; I57
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. Alter
A:Reference number: A92581; MUID:86168194
A:Accession: A92581
A:Molecule type: DNA
A:Residues: 1-153 <ROT>
A:Cross-references: GB:M4156; NID:g183107; PIDN:AAAS2538.1; PID:g183110
R:de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma
FEBS Lett. 195, 179-184, 1986
A:Title: Organization of the human genes for insulin-like growth factors I and II.
A:Reference number: A91356; MUID:86108862

A:Accession: A23614
A:Molecule type: DNA
A:Residues: 24-153 <DBP>
A:Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB
R:Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H
Nature 306, 609-611, 1983
A:Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A:Reference number: A93321; MUID:84068210
A:Accession: A93321
A:Molecule type: mRNA
A:Residues: 1-153 <JAN>
A:Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A:Note: Met-24 is proposed as a likely initiator
R:Steenbergh, P.H.; Koonen-Remst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A:Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A:Reference number: J00571; MUID:91207342
A:Accession: J00571
A:Molecule type: mRNA
A:Residues: 1-153 <STE>
A:Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
R:Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
FEBS Lett. 196, 108-112, 1986
A:Title: Complete characterization of the human IGF-I nucleotide sequence isolated fr
A:Reference number: A23622; MUID:86108910
A:Accession: A23622
A:Molecule type: mRNA
A:Residues: 1-153 <LEB>
A:Cross-references: GB:M27544; NID:g184829; PIDN:AAAS22787.1; PID:g306927
R:Rinderknecht, E.; Humbel, R.E.
J. Biol. Chem. 253, 2769-2776, 1978
A:Title: The amino acid sequence of human insulin-like growth factor I and its struct
A:Reference number: A92226; MUID:78130171
A:Accession: A92226
A:Molecule type: protein
A:Residues: 49-118 <RIN>
R:Karey, K.P.; Marguardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A:Title: Human platelet-derived mitogens. Identification of insulinlike growth factor
A:Reference number: A60483; MUID:89323462
A:Accession: A60483
A:Molecule type: protein
A:Residues: 49-53, 'X', '55-65, 'X', '67-75 <KAR>
A:Experimental source: platelet lysate
R:Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-la.
A:Reference number: S30519
A:Accession: S30519
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-153 <NOR>
A:Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumo
A:Reference number: A48960; MUID:93265440
A:Accession: A48960
A:Molecule type: mRNA
A:Residues: 1-123, 'E', '125-132, 'E', '134-153 <SAN>
A:Cross-references: GB:X56773; GB:S61841; NID:g32989
A:Experimental source: anaplastic oligodendrolioma
A:Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBIP:133057)
A:Note: sequence inconsistent with the nucleotide translation
R:Rall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A:Title: Human insulin-like growth factor I and II messenger RNA: isolation of comple
A:Reference number: I57044; MUID:88065102
A:Accession: I57044
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 24-153 <RAL>
A:Cross-references: GB:M29644; NID:g183119; PIDN:AAAS2543.1; PID:g183120

C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and identical. For an alternative splice form, see PIR:IGHUIB.

C;Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
F;49-77/Domain: insulin chain B-like #status experimental <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin chain A-like #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPEO>
F;54-96,66-109,95-100/disulfide bonds: #status predicted

Query Match 78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 1.4e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
|||||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTK 134

RESULT 8

S12825
insulin-like growth factor I precursor - pig
N;Alternate names: somatomedin C
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S12825; S21488; A34938; A60738
R;Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated region
A;Reference number: S12825; MUID:90221822
A;Accession: S12825
A;Status: preliminary
A:Molecule type: DNA
A;Residues: 1-153 <MUE>
A;Cross-references: EMBL:X52388
R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
submitted to the EMBL Data Library, November 1989
A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-coding region
A;Reference number: S21488
A;Accession: S21488
A:Molecule type: DNA
A;Residues: 1-21 <DIC>
A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988
A;Title: Porcine insulin-like growth factor-I (PIGF-I): complementary deoxyribonucleic acid

A;Reference number: A34938; MUID:89096956

A;Accession: A34938
A:Molecule type: mRNA
A;Residues: Y, 21-153 <TAV>
A;Cross-references: GB:M31175
R;Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin
A;Reference number: A60738; MUID:90039035
A;Accession: A60738
A:Molecule type: protein
A;Residues: 49-117, X' <FRA>
C;Genetics:

A;Introns: 21/3; 74/1
C;Superfamily: insulin
C;Keywords: growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 77.7%; Score 464.5; DB 2; Length 153;
Best Local Similarity 87.3%; Pred. No. 3.3e-41;
Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK-----YQPPSTNKN 95
|||||
Db 109 CAPLKPAKSARSVRAQRHTDMPKTKQAQKEVHLKNTSGSGNKN 150

RESULT 9

PN0622

insulin-like growth factor Ia precursor - dog (fragment)

C;Species: Canis lupus familiaris (dog)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C;Accession: PN0622
R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A;Reference number: PN0622; MUID:93366192
A;Accession: PN0622
A:Molecule type: mRNA
A;Residues: 1-122
C;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types,
C;Genetics:

A;Gene: IGF1a
C;Superfamily: insulin

C;Keywords: growth factor

F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 77.4%; Score 463; DB 2; Length 122;

Best Local Similarity 98.8%; Pred. No. 3.9e-41;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 79
|||||

QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
|||||

Db 80 CAPLKPAKSARSVRAQRHTDMPKTK 105
|||||

RESULT 10

IGB01

insulin-like growth factor IA precursor - bovine (fragment)

N;Alternate names: IGF-I; somatomedin C

C;Species: Bos primigenius taurus (cattle)

C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999

C;Accession: S12672; A25623; S00465

R;Fotsis, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990

A;Title: Nucleotide sequence of the bovine insulin-like growth factor I (IGF-I) and I

A;Reference number: S12672; MUID:90175014

A;Accession: S12672

A:Molecule type: mRNA

A;Residues: 1-153 <FO>

A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455

A;Experimental source: liver

R;Honegger, A.; Humbel, R.E.

J. Biol. Chem. 261, 569-575, 1986

A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purifi

A;Reference number: A92585; MUID:86085881

A:Accession: A25623
A:Molecule type: protein
A:Residues: 49-118 <HON>
R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A:Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological activities
A:Reference number: S00465; MUID:88268820
A:Accession: S00465
A:Molecule type: protein
A:Residues: 49-118 <FRA>
A:Experimental source: colostrum
A:Note: A form of IGF-I lacking the first three residues and possessing enhanced biological activity
C:Superfamily: insulin
C:Keywords: alternative splicing; colostrum; growth factor; plasma
F:1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor IA (active)
F:9-77/Domain: insulin B chain-like #status experimental <MAT>
F:89/Domain: insulin connecting C peptide-like #status experimental <DOB>
F:90-110/Domain: insulin A chain-like #status experimental <DOA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.4%; Score 463; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 4.8e-41;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPTLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||

QY 61 CAPLKPAAKSARSVRAQRHTDMPKQK 86
|||||
Db 109 CAPLKPAAKSARSVRAQRHTDMPKQK 134
|||||

RESULT 11
JC2483
insulin-like growth factor-I precursor - goat
C:Species: Capra aegagrus hircus (domestic goat)
C:Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C:Accession: JC2483
R:Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I) gene
A:Reference number: JC2483; MUID:95201385
A:Accession: JC2483
A:Molecule type: mRNA
A:Residues: 1-154 <MIK>
A:Cross-references: GB:S11378; DBJ:D26116; DBJ:D26117; DBJ:D26118; DBJ:D26119
C:Genetics:
A:Introns: 21/3; 75/1; 135/3
C:Superfamily: insulin
F:1-49/Domain: signal sequence #status predicted <SIG>
F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F:120-154/Region: E domain

Query Match 76.8%; Score 459; DB 2; Length 154;
Best Local Similarity 97.7%; Pred. No. 1.3e-40;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 50 GPTLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 109
|||||

QY 61 CAPLKPAAKSARSVRAQRHTDMPKQK 86
|||||
Db 110 CAPLKPAAKSARSVRAQRHTDMPKQK 135
|||||

RESULT 12
S22878

insulin-like growth factor I precursor, splice form 2 - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999
A:Accession: S22878; S07198
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and biological activity
A:Reference number: S22877; MUID:91197361
A:Accession: S22878
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-138 <DIC>
A:Cross-references: EMBL:X51358
R:Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays
A:Reference number: S07198; MUID:89136887
A:Accession: S07198
A:Molecule type: protein
A:Residues: 34-103 <FRA>
A:Experimental source: fetal plasma
C:Genetics:
A:Introns: 5/3; 59/1; 119/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:7-33/Domain: propeptide #status predicted <PRO>
F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>
F:34-62/Domain: insulin chain B-like #status predicted <DOB>
F:63-74/Domain: insulin connecting peptide-like #status predicted <CHC>
F:75-95/Domain: insulin chain A-like #status predicted <DOA>
F:96-103/Domain: peptide D #status predicted <CHD>
F:104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F:39-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 76.1%; Score 455; DB 2; Length 138;
Best Local Similarity 97.7%; Pred. No. 3e-40;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 34 GPTLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 93
|||||

QY 61 CAPLKPAAKSARSVRAQRHTDMPKQK 86
|||||
Db 94 CAPLKPAAKSARSVRAQRHTDMPKQK 119
|||||

RESULT 13
A33390
insulin-like growth factor I precursor, splice form 1 - sheep
N:Alternate names: somatomedin C
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999
A:Accession: S22877; A33390; S07965; S07198
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and biological activity
A:Reference number: S22877; MUID:91197361
A:Accession: S22877
A:Molecule type: DNA
A:Residues: 1-154 <DIC>
A:Cross-references: EMBL:X51358
R:Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.
DNA 8, 649-657, 1989
A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA
A:Reference number: A33390; MUID:90126234
A:Accession: A33390
A:Molecule type: mRNA
A:Residues: 1-43, 'SS', 46-154 <WON>
A:Cross-references: GB:M30653; NID:gl65929; PIDN:AAA80532.1; PID:gl65930
R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.
Biochim. Biophys. Acta 997, 27-35, 1989
A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh

A:Reference number: S04972; MUID:89323215

A:Accession: S07965

A:Molecule type: protein

A:Residues: 50-79 <HEY>

R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.

Endocrinology 124, 1173-1183, 1989

A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.

A:Reference number: S07198; MUID:89136887

A:Accession: S07198

A:Molecule type: protein

A:Residues: 50-119 <FRA>

A:Experimental source: fetal plasma

C:Genetics:

A:Introns: 21/3; 75/1; 135/3

C:Superfamily: insulin

C:Keywords: alternative splicing; growth factor; plasma

F:1-21/Domain: signal sequence #status predicted <SIG>

F:22-49/Domain: propeptide #status predicted <PRO>

F:50-119/Product: insulin-like growth factor I (active) #status experimental <MAT>

F:79-90/Domain: insulin chain B-like #status predicted <DOB>

F:91-111/Domain: insulin connecting peptide-like #status predicted <DOA>

F:112-119/Domain: peptide D #status predicted <CHD>

F:120-154/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

F:55-97, 67-110, 96-101/disulfide bonds: #status predicted

Query Match

Best Local Similarity 76.1%; Score 455; DB 2; Length 154;

Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60

Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 109

QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQ 86

Db 110 CAPLKAASARSVRAQRHTDMPKTKQ 135

RESULT 14

B27804

insulin-like growth factor IA precursor - rat

N:Alternate names: IGF-IA; somatomedin C

C:Species: Rattus norvegicus (Norway rat)

C:Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000

C:Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096

R:Shimatsu, A.; Rotwein, P.

J. Biol. Chem. 262, 7894-7900, 1987

A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, an

A:Reference number: A27804; MUID:87222423

A:Accession: B27804

A:Molecule type: DNA

A:Residues: 1-153 <SHI>

A:Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300

R:Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund

DNA 6, 325-330, 1987

A:Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor

A:Reference number: A27849; MUID:88003970

A:Accession: A27849

A:Molecule type: mRNA

A:Residues: 27-153 <CAS>

A:Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752

R:Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.

Agric. Biol. Chem. 54, 1599-1601, 1990

A:Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth

A:Reference number: JH0133

A:Accession: JH0133

A:Molecule type: mRNA

A:Residues: 27-153 <KAT>

A:Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781

A:Experimental source: liver

R:Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.

Endocrinology 121, 684-691, 1987

A:Title: Identification, characterization, and regulation of a rat complementary deox

A:Reference number: A28504; MUID:87246437

A:Accession: A28504

A:Molecule type: mRNA

A:Residues: 46-153 <MUR>

A:Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325

R:Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.

Agric. Biol. Chem. 54, 2225-2230, 1990

A:Title: Evidence of introduction by molecular cloning of artificial inverted sequenc

A:Reference number: JN0088; MUID:91136779

A:Accession: JN0088

A:Molecule type: mRNA

A:Residues: 'MSAPP', 22-153 <KA2>

A:Experimental source: liver

A:Note: the authors present evidence that this mRNA may contain an artifactual inver

R:Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa

J. Biol. Chem. 264, 5616-5621, 1989

A:Title: Primary structure of rat insulin-like growth factor-I and its biological act

A:Reference number: A32857; MUID:89174609

A:Accession: A32857

A:Molecule type: protein

A:Residues: 49-118 <TAM>

R:Canalis, E.; McCarthy, T.; Centrella, M.

Endocrinology 122, 22-27, 1988

A:Title: Isolation and characterization of insulin-like growth factor I (somatomedin-

A:Reference number: A61096; MUID:88082445

A:Accession: A61096

A:Molecule type: protein

A:Residues: 49-53, X'55-65 <CAN>

C:Superfamily: insulin

C:Keywords: alternative splicing; growth factor

F:49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match

Best Local Similarity 75.3%; Score 450; DB 2; Length 153;

Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60

Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 108

QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQ 86

Db 109 CAPLKPAKSARSVRAQRHTDMPKTKQ 134

RESULT 15

A25540

insulin-like growth factor IA precursor - mouse

N:Alternate names: IGF-IA; somatomedin C

C:Species: Mus musculus (house mouse)

C:Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999

C:Accession: A25540; I55295; I55090; B25540

R:Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.

Nucleic Acids Res. 14, 7873-7882, 1986

A:Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth fa

A:Reference number: A33643; MUID:87040760

A:Accession: A25540

A:Molecule type: mRNA

A:Residues: 1-127 <BEL>

A:Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802

R:Tollersten, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.

J. Biol. Chem. 264, 13810-13817, 1989

A:Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I

A:Reference number: I55295; MUID:89340472

A:Accession: I55295

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 49-108 <RES>

A:Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489

R:Mathews, L.S.; Norstedt, G.; Palmer, R.D.

Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986

A:Title: Regulation of insulin-like growth factor I gene expression by growth hormone

A:Reference number: I59090; MUID:87092249
A:Accession: I59090
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 49-108 <RE2>
A:Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496
C:Genetics:
A:Gene: igf1
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor
F:1-22/Domain: signal sequence #status predicted <SIG>
F:23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>
F:23-51/Domain: insulin chain B-like #status predicted <DOB>
F:52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>
F:64-84/Domain: insulin chain A-like #status predicted <DOA>
F:85-92/Domain: D peptide #status predicted <DOD>
F:93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
Query Match 74.7%; Score 447; DB 2; Length 127;
Best Local Similarity 94.2%; Pred. No. 1.9e-39;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
QY 1 GPTTCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPTTCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82
QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
Db 83 CAPLPTKAARSIRAQRHTDMPKTQK 108

Search completed: October 25, 2002, 15:59:28
Job time : 13.5904 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:51 ; Search time 6.62651 Seconds
(without alignments)
642.745 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCAELVDALQFVCGD.....STNKTKSQRKRGSTFEEHK 110

Scoring table:
BLOSUM62
Gapop 10.0 , Gapext 0.5

rchd: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	572.5	95.7	143	1 IGF1_RABIT	Q95222 oryctolagus
2	560	93.6	195	1 IGF1_HUMAN	P05019 homo sapien
3	521.5	87.2	133	1 IGF1_MOUSE	P05018 mus musculus
4	494	82.6	181	1 IGF1_RAT	P08024 rattus norv
5	468	78.3	130	1 IGF1_CAVPO	P17647 cavia porce
6	468	78.3	153	1 IGF1_HUMAN	P01343 homo sapien
7	464.5	77.7	153	1 IGF1_PIG	P16545 sus scrofa
8	463	77.4	122	1 IGF1_CANFA	P33712 canis famil
9	463	77.4	154	1 IGF1_BOVIN	P07455 bos taurus
10	459	76.8	154	1 IGF1_CAPHI	P51457 capra hiricu
11	455	76.1	154	1 IGF1_SHEEP	P10763 ovis aries
12	450	75.3	153	1 IGF1_RAT	P08025 rattus norv
13	447	74.7	127	1 IGF1_MOUSE	P05017 mus musculus
14	422	70.6	124	1 IGF1_COTJA	P51462 coturnix co
15	422	70.6	153	1 IGF1_CHICK	P18254 gallus gall
16	419.5	70.2	153	1 IGF1_XENLA	P16501 xenopus lae
17	414	69.2	81	1 IGF1_SUNMU	Q28933 suncus muri
18	403	67.4	122	1 IGF1_HORSE	P51458 equus cabal
19	401	67.1	176	1 IGF1_ONCKI	P17085 oncorhynch
20	399.5	66.8	161	1 IGF1_CYPCA	Q90326 cyprinus ca
21	398	66.6	176	1 IGF1_ONCMY	Q02815 oncorhynch
22	393.5	65.8	161	1 IGF1_CYPCA	Q90325 cyprinus ca
23	264.5	44.2	214	1 IGF2_ONCMY	Q02816 oncorhynch
24	241	40.3	179	1 IGF2_SHEEP	P10764 ovis aries
25	235	39.3	128	1 IGF2_CAVPO	Q08279 cavia porce
26	235	39.3	155	1 IGF2_BOVIN	P07456 bos taurus
27	233	39.0	180	1 IGF2_MOUSE	P09535 mus musculus
28	232.5	38.9	129	1 IGF2_MUSVI	P14694 mustela vis
29	231	38.6	180	1 IGF2_HUMAN	P01344 homo sapien
30	229.5	38.4	180	1 IGF2_RAT	P01346 rattus norv
31	229	38.3	181	1 IGF2_HORSE	P51459 equus cabal
32	228	38.1	181	1 IGF2_PIG	P23695 sus scrofa
33	222	37.1	66	1 IGF2_CHICK	P33717 gallus gall

34	219.5	36.7	139	1 IGF_MXGL	P22618 myxine glut
35	159.5	26.7	50	1 INS_MYSCA	P07453 myoxocephal
36	158.5	26.5	51	1 INS_GADCA	P01336 gadus calla
37	155.5	26.0	51	1 INS1_BATSP	P01337 batrachoidi
38	154	25.8	50	1 INS2_BATSP	P01338 batrachoidi
39	151	25.3	59	1 INS_HYDCO	P09536 hydrolagus
40	149	24.9	51	1 INS_CHIBR	P01327 chinchilla
41	149	24.9	51	1 INS_ZAODH	P12708 zaocys dhum
42	148	24.7	51	1 INS_ALLMI	P12703 alligator m
43	146.5	24.5	51	1 INS2_THUTH	P01339 thunnus thy
44	146	24.4	51	1 INS_ANSAN	P07454 anser anser
45	146	24.4	51	1 INS_CROAT	P01334 crotalus at

ALIGNMENTS

RESULT 1
IGF1_RABIT
ID IGF1_RABIT STANDARD: PRT: 143 AA.
AC Q95222; O18846;
DT 01-NOV-1997 (Rel. 35, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1 OR IGF-1.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC STRAIN=ZIKR;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC STRAIN=ZIKR; TISSUE=Liver;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; IGF-IA AND IGF-IB (SHOWN HERE);
CC ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; U75390; AAB48032.1; -;
CC EMBL; AF022961; AAB80950.1; -;
CC HSP: P05019; IGF1.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULINA.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; IIGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT SIGNAL 1 32
FT CHAIN 103 143
FT PROPEP 33 61
FT DOMAIN 62 73
FT DOMAIN 74 94

FT DOMAIN 95 102 D. 102
FT DISULFID 38 80 BY SIMILARITY.
FT DISULFID 50 93 BY SIMILARITY.
FT DISULFID 79 84 BY SIMILARITY.
FT VARSPLIC 119 143 YQPPSTNKKMSQRRKKGSTFEEHK -> EVHLKNTSRGSA
FT GKNNTNM (IN ISOFORM IGF-IA).
SQ SEQUENCE 143 AA; 16091 MW; 819AF577800A1B1A CRC64;

Query Match 95.7%; Score 572.5; DB 1; Length 143;
Best Local Similarity 96.4%; Pred. No. 6.9e-54;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPTTLCGAELVDALQVCGDGRGYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLMY 60
DB 33 GPTTLCGAELVDALQVCGDGRGYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLMY 92
QY 61 CAPLKPAKSARSVRAQRHDTMPKTKYQPPSTNKNKTSQ-RRKSGTFFEEHK 110
DB 93 CAPLKPAKSARSVRAQRHDTMPKTKYQPPSTNKNKTSQRRKSGTFFEEHK 143

RESULT 2
GPB_HUMAN STANDARD; PRT; 195 AA.
AC P05019;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGF1 OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RL J. Biol. Chem. 261:4828-4832(1986).
[2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86094355; PubMed=3455760;
RA Rotwein P.;
RT "Two insulin-like growth factor I messenger RNAs are expressed in
RT human liver.";
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
[3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuisen P., van Schaik F.M.A., Verdulijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
[4]
RP SEQUENCE OF 22-50 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781(1984).
[5]
RP SEQUENCE OF 49-118.
RX MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
RL J. Biol. Chem. 253:2769-2776(1978).
[6]
RP 3D-STRUCTURE MODELING.

RX MEDLINE=83210259; PubMed=6189745;
RA Blundell T.L., Bedarkar S., Humbel R.E.;
RT "Tertiary structures, receptor binding, and antigenicity of
RT insulinlike growth factors";
RL Fed. Proc. 42:2592-2597(1983).
[7]
RN STRUCTURE BY NMR.
RX MEDLINE=91242464; PubMed=2036417;
RA Cooke R.M., Harvey T.S., Campbell I.D.;
RT "Solution structure of human insulin-like growth factor I: a nuclear
RT magnetic resonance and restrained molecular dynamics study.";
RL Biochemistry 30:5484-5491(1991).
[8]
RN STRUCTURE BY NMR.
RX MEDLINE=92316903; PubMed=1319992;
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA Yasuda T., Kobayashi Y.;
RT "1H-NMR assignment and secondary structure of human insulin-like
RT growth factor-I (IGF-I) in solution.";
RL J. Biochem. 111:529-536(1992).
[9]
RN DISULFIDE BONDS.
RX MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RT (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-IA AND IGF-IB ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
[10]
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CC or send an email to license@isb-sib.ch).
[11]
DR EMBL; M14155; AAA52537.1; -
DR EMBL; M12659; AAA52537.1; JOINED.
DR EMBL; M14153; AAA52537.1; JOINED.
DR EMBL; M14154; AAA52537.1; JOINED.
DR EMBL; M11568; AAA52539.1; -
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; X03420; CAA27152.1; -
DR EMBL; X03421; CAA27153.1; -
DR EMBL; X03422; CAA27154.1; -
DR PIR; A01611; IGHL1B.
DR PIR; A23614; A23614.
DR PIR; A26181; A26181.
DR PIR; S30540; S30540.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MM; 147440; -
DR MM; 265850; -
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; 3D-structure; Plasma;
KW Alternative splicing; Signal.
FT SIGNAL 1 21 POTENTIAL.
FT PROPEP 22 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.

```
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 195 E PEPTIDE.
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT STRAND 55 55
FT TURN 56 65
FT HELIX 56 68
FT TURN 66 78
FT STRAND 78 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;

Query Match 93.6%; Score 560; DB 1; Length 195;
Best Local Similarity 100.0%; Pred. No. 2e-52; Mismatches 0; Indels 0; Gaps 0;
Matches 103; Conservative 0;

QY 1 GPTLCGAEVLVALQVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 49 GPTLCGAEVLVALQVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 108
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKG 103
|||||
Db 109 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKG 151
|||||

RESULT 3
IGFB_MOUSE
ID IGFB_MOUSE STANDARD; PRT; 133 AA.
AC P05018;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin)..
IGF1 OR IGF-1.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
[1]
NCBI_TaxID=10090;
SEQUENCE FROM N.A.
TISSUE=Liver;
MEDLINE=87040760; PubMed=3774549;
RA Bell G.L., Stempien M.M., Pong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P05017) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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CC EMBL; X04482; CAA28170.1; -.
DR PIR; B25540; B25540.
DR HSSP; P05019; IGF1.
DR MGD; MGI:96432; Igf1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD01048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 23 51 B.
FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DOMAIN 85 92 D.
FT PROPEP 93 133 E PEPTIDE.
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B88D62502 CRC64;

Query Match 87.2%; Score 521.5; DB 1; Length 133;
Best Local Similarity 89.2%; Pred. No. 1.6e-48;
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

QY 1 GPTLCGAEVLVALQVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 23 GPTLCGAEVLVALQVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRRLEMY 82
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKGSTFEHK 110
|||||
Db 83 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKGSTFEHK 133
|||||

RESULT 4
IGFB_MOUSE
ID IGFB_MOUSE STANDARD; PRT; 181 AA.
AC P08024;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
IGF1 OR IGF-1.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
[1]
NCBI_TaxID=10116;
SEQUENCE FROM N.A.
MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
sequence, and expression of the rat insulin-like growth factor I
gene."
RL J. Biol. Chem. 262:7894-7900(1987).
[2]
SEQUENCE FROM N.A.
MEDLINE=88015572; PubMed=3658684;
RA Shimatsu A., Rotwein P.;
RT "Sequence of two rat insulin-like growth factor I mRNAs differing
within the 5' untranslated region."
RL Nucleic Acids Res. 15:7196-7196(1987).
[3]
SEQUENCE FROM N.A.
MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
unit: heterogeneous transcripts are generated from two promoters by
use of multiple polyadenylation sites and differential ribonucleic
```


DT 13-AUG-1987 (Rel. 05, Last sequence update)
DE 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN IGF1 OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
[1]
RN SEQUENCE FROM N.A.
RP MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RT J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RN SEQUENCE FROM N.A.
RP MEDLINE=84068210; PubMed=6358902;
RA Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RA Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT "Sequence of cDNA encoding human insulin-like growth factor I
RT precursor.";
RL Nature 306:609-611(1983).
RN [3]
RN SEQUENCE FROM N.A.
RP MEDLINE=86108910; PubMed=2935423;
RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sandermeier P.;
RT "Complete characterization of the human IGF-I nucleotide sequence
RT isolated from a newly constructed adult liver cDNA library.";
RL FEBS Lett. 196:108-112(1986).
RN [4]
RN SEQUENCE FROM N.A.
RP MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuijzen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
RN [5]
RN SEQUENCE FROM N.A.
RP MEDLINE=91207342; PubMed=2018498;
RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA Sussenbach J.S.;
RT "Complete nucleotide sequence of the high molecular weight human
RT IGF-I mRNA.";
RL Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN [6]
RN SEQUENCE FROM N.A.
RP MEDLINE=92186627; PubMed=1372070;
RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
RT "Characterization of two cDNAs encoding insulin-like growth factor 1
RT (IGF-1) in the human fetal brain.";
RL Brain Res. Mol. Brain Res. 12:275-277(1992).
RN [7]
RN SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RP MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781(1984).
RN [8]
RN SEQUENCE OF 49-118.
RP MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
RL J. Biol. Chem. 253:2769-2776(1978).
RN [9]
RN 3D-STRUCTURE MODELING.
RP MEDLINE=83210259; PubMed=6189745;
RX Blundell T.L., Bedarkar S., Humbel R.E.;
RT "Tertiary structures, receptor binding, and antigenicity of
RT insulin-like growth factors.";
RN Fed. Proc. 42:2592-2597(1983).
RN [10]
RN STRUCTURE BY NMR.
RP MEDLINE=91242464; PubMed=2036417;
RX Cooke R.M., Harvey T.S., Campbell I.D.;
RA "Solution structure of human insulin-like growth factor 1: a nuclear
RT magnetic resonance and restrained molecular dynamics study.";
RL Biochemistry 30:5484-5491(1991).
RN [11]
RN STRUCTURE BY NMR.
RP MEDLINE=92316903; PubMed=1319992;
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Kobayashi M.,
RA Yasuda T., Kobayashi Y.;
RT "1H-NMR assignment and secondary structure of human insulin-like
RT growth factor-I (IGF-I) in solution.";
RL J. Biochem. 111:529-536(1992).
RN [12]
RN DISULFIDE BONDS.
RP MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Marryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RT (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
RN CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-1A AND IGF-1B ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; M14156; AAA52538.1; -
DR EMBL; M12659; AAA52538.1; JOINED.
DR EMBL; M14153; AAA52538.1; JOINED.
DR EMBL; M14154; AAA52538.1; JOINED.
DR EMBL; X00173; CAA24998.1; -
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; M27544; AAA52787.1; -
DR EMBL; X03420; CAA27152.1; -
DR EMBL; X03421; CAA27153.1; -
DR EMBL; X03422; CAA27154.1; -
DR EMBL; X57025; CAA40342.1; -
DR EMBL; X56773; CAA40092.1; -
DR PIR; A01610; IGHL1.
DR PIR; A23614; A23614.
DR PIR; A23622; A23622.
DR PIR; S30519; S30519.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MIM; 147440; -
DR MIM; 265850; -
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ilgf; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; 3D-structure;
KW Alternative splicing; Signal; POTENTIAL.
FT SIGNAL 1 21

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FT PROPEP      22 48
FT CHAIN       49 118
FT DOMAIN     49 177
FT DOMAIN     78 89
FT DOMAIN     90 110
FT DOMAIN     111 118
FT PROPEP     119 153
FT DISULFID   54 96
FT DISULFID   66 109
FT STRAND     95 100
FT STRAND     51 51
FT TURN       55 55
FT HELIX      56 65
FT TURN       66 68
FT STRAND     78 78
FT TURN       79 81
FT STRAND     82 82
FT TURN       87 88
FT HELIX      91 96
FT TURN       97 97
FT STRAND     98 98
FT TURN      102 104
FT HELIX     106 108
FT TURN      109 109
SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match      78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 8.e-43;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
DB 49 GPETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
DB 109 CAPLPAKSARSVRAQRHTDMPKTKQ 134

RESULT 7
IGFL_PIG
ID IGFL_PIG STANDARD; PRT; 153 AA.
AC P16545;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
NCBI_TaxID=9823;
[1]
SEQUENCE FROM N.A.
RX MEDLINE=90221822; PubMed=23261619;
RA Mueller M., Brem G.;
RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
untranslated region, exons 1 and 2 and mRNA.";
RL Nucleic Acids Res. 18:364-364(1990).
[2]
SEQUENCE OF 20-153 FROM N.A.
RX MEDLINE=89096956; PubMed=3211153;
RA Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT "Porcine insulin-like growth factor-I (pIGF-I): complementary
deoxyribonucleic acid cloning and uterine expression of messenger
ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL Mol. Endocrinol. 2:674-681(1988).
[3]
SEQUENCE OF 1-21 FROM N.A.
RC STRAIN-WHITE LANDRACE; TISSUE=Liver;
RX MEDLINE=94128209; PubMed=8297476;
RA Wellner P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA Gilmour R.S.;

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RT RT
RT J. Mol. Endocrinol. 11:201-211(1993).
CC -I- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -I- SUBCELLULAR LOCATION: Secreted.
CC -I- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; X17492; CAA35527.1; -
DR EMBL; X52388; CAA36617.1; -
DR EMBL; X52077; CAA36296.1; -
DR EMBL; M31175; AAA31043.1; ALT_INIT.
DR EMBL; X17638; CAA35632.1; -
DR PIR; A34938; A34938.
DR PIR; SI2825; SI2825.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;

Query Match      77.7%; Score 464.5; DB 1; Length 153;
Best Local Similarity 87.3%; Pred. No. 2.1e-42;
Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

QY 1 GPETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
DB 49 GPETLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ-----YQPPSTNKN 95
DB 109 CAPLPAKSARSVRAQRHTDMPKQAQKQEVHLKNTSRGSSGNKN 150

RESULT 8
IGFL_CANFA
ID IGFL_CANFA STANDARD; PRT; 122 AA.
AC P33712;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).
GN IGFI OR IGFIa.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OC NCBI_TaxID=9615;

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RN  SEQUENCE FROM N.A.
RX  MEDLINE=93366192; PubMed=8359700;
RA  Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT  "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL  Gene 130:305-306(1993).
CC  -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC  ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC  MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC  or send an email to license@isb-sib.ch).
CC  -----
DR  EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR  PIR; P00622; P00622.
DR  HSSP; P05019; IGF1.
DR  InterPro; IPR000739; Insulin_IGF_relaxin.
DR  Pfam; PF00049; Insulin; 1.
DR  ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR  SMART; SM00078; IGF; 1.
DR  PROSITE; PS00262; INSULIN; 1.
KW  Insulin family; Growth factor; Plasma; Signal.
FT  NON_TER 1
FT  SIGNAL <1 19 BY SIMILARITY.
FT  CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT  DOMAIN 20 48 B.
FT  DOMAIN 49 60 C.
FT  DOMAIN 61 81 A.
FT  DOMAIN 82 89 D.
FT  PROPEP 90 122 E PEPTIDE.
FT  DISULFID 25 67 BY SIMILARITY.
FT  DISULFID 37 80 BY SIMILARITY.
FT  DISULFID 66 71 BY SIMILARITY.
SQ  SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

Query Match 77.4%; Score 463; DB 1; Length 122;
Best Local Similarity 98.8%; Pred. No. 2,3e-42;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
20 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 79

QY 61 CAPLPAKSARSVRAQRHTDMPKTK 86
80 CAPLPAKSARSVRAQRHTDMPKAK 105

RESULT 9
ID1 IGF1_BOVIN STANDARD; PRT; 154 AA.
AC P07455;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE OF 2-154 FROM N.A.
RX MEDLINE=90175014; PubMed=2308658;
RA Fotsis T., Murphy C., Gannon F.;

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RT "Nucleotide sequence of the bovine insulin-like growth factor 1
RT (IGF-1) and its IGF-1A precursor.";
RL Nucleic Acids Res. 18:676-676(1990).
RN [2]
RP SEQUENCE OF 50-119 FROM N.A.
RX MEDLINE=95172127; PubMed=7867698;
RA Schmidt A., Einspanier R., Amsegruber W., Sinowatz F., Schams D.;
RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT oviduct during the oestrous cycle.";
RL Exp. Clin. Endocrinol. 102:364-369(1994).
RN [3]
RP SEQUENCE OF 50-119.
RX MEDLINE=86085881; PubMed=3941093;
RA Honegger A., Humbel R.E.;
RT "Insulin-like growth factors I and II in fetal and adult bovine
RT serum. Purification, primary structures, and immunological
RT cross-reactivities.";
RL J. Biol. Chem. 261:569-575(1986).
RN [4]
RP SEQUENCE OF 50-119.
RX MEDLINE=88268820; PubMed=3390164;
RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT and biological activities compared with those of a potent truncated
RT form.";
RL Biochem. J. 251:95-103(1988).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR  EMBL; X15726; CAA33746.1; -.
DR  EMBL; S76122; AAD14209.1; -.
DR  PIR; A25623; IGB01.
DR  PIR; S00465; S00465.
DR  PIR; S12672; S12672.
DR  HSSP; P05019; IGF1.
DR  InterPro; IPR000739; Insulin_IGF_relaxin.
DR  Pfam; PF00049; Insulin; 1.
DR  PRINTS; PR00276; INSULINA.
DR  PRINTS; PR00277; INSULINB.
DR  ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR  SMART; SM00078; IGF; 1.
DR  PROSITE; PS00262; INSULIN; 1.
KW  Insulin family; Growth factor; Plasma; Signal.
FT  SIGNAL 1 49 ?
FT  PROPEP 1 49 ?
FT  CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT  DOMAIN 50 78 B.
FT  DOMAIN 79 90 C.
FT  DOMAIN 91 111 A.
FT  DOMAIN 112 119 D.
FT  PROPEP 120 154 E PEPTIDE.
FT  DISULFID 55 97 BY SIMILARITY.
FT  DISULFID 67 110 BY SIMILARITY.
FT  DISULFID 96 101 BY SIMILARITY.
SQ  SEQUENCE 154 AA; 17066 MW; 6420186AF3140999 CRC64;

Query Match 77.4%; Score 463; DB 1; Length 154;
Best Local Similarity 98.8%; Pred. No. 3e-42;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||

```


RT adult sheep serum.";
 RL Biochim. Biophys. Acta 997:27-35(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A, B (SHOWN HERE) AND C; ARE
 CC PRODUCED BY ALTERNATIVE SPLICING.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 EMBL; M30653; AAA80532.1; -;
 EMBL; M30653; AAA80533.1; -;
 EMBL; M31734; AAA80535.1; -;
 EMBL; M31734; AAA80534.1; -;
 EMBL; M31736; AAA31545.1; -;
 EMBL; M31735; AAA31546.1; -;
 EMBL; M31735; AAA31547.1; -;
 EMBL; M31735; AAA31547.1; -;
 EMBL; X69472; CAA49230.1; -;
 EMBL; X69473; CAA49230.1; JOINED.
 EMBL; X69474; CAA49230.1; JOINED.
 EMBL; X69475; CAA49230.1; JOINED.
 EMBL; X69472; CAA49231.1; -;
 EMBL; X69473; CAA49231.1; JOINED.
 EMBL; X69474; CAA49231.1; JOINED.
 EMBL; X69475; CAA49231.1; JOINED.
 EMBL; X69473; CAA49232.1; -;
 EMBL; X69474; CAA49232.1; JOINED.
 EMBL; X69475; CAA49232.1; JOINED.
 EMBL; M89787; AAA31544.1; -;
 PIR; A33390; A33390.
 PIR; B33390; B33390.
 PIR; S07198; S07198.
 PIR; S07965; S07965.
 DR HSP; P05019; IGF1.
 DR InterPro; IPR000739; Insulin_IGF_relaxin.
 DR PIR; P00049; Insulin; 1.
 DR PRINTS; PR00276; INSULINA.
 DR PRINTS; PR00277; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM000078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 DR Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
 FT SIGNAL 1 ?
 FT PROPEP ? 49 INSULIN-LIKE GROWTH FACTOR I.
 FT CHAIN 50 119 B.
 FT DOMAIN 50 78 C.
 FT DOMAIN 79 90 C.
 FT DOMAIN 91 111 A.
 FT DOMAIN 112 119 D.
 FT PROPEP 120 154 E PEPTIDE.
 FT DISULFID 55 97 BY SIMILARITY.
 FT DISULFID 67 110 BY SIMILARITY.
 FT DISULFID 96 101 BY SIMILARITY.
 FT VARSPPLIC 1 21 MGKISLPTQLFKCCFCDFLK -> MVPTT (IN ISOFORM C).
 FT VARSPPLIC 1 34 MISSING (IN ISOFORM A).
 FT CONFLICT 57 57 A -> V (IN REF. 4).
 FT SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;
 Query Match 76.1%; Score 455; DB 1; Length 154;
 Best Local Similarity 97.7%; Pred. No. 2.1e-41;
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLLEY 60
 |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLLEY 109
 QY 61 CAPLKAAPSARSVRAQRHTDMPKTK 86
 ||||| |||||||||||||||||||| ||
 Db 110 CAPLKAAPSARSVRAQRHTDMPKTK 135
 RESULT 12
 IGFA_RAT
 ID IGFA_RAT STANDARD; PRT; 153 AA.
 AC P08025;
 DT 01-AUG-1988 (Rel. 08, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DT 30-MAY-2000 (Rel. 39, Last annotation update)
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
 GN IGF1 OR IGF-1.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OC NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87222423; PubMed=3034909;
 RA Shimatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors. Organization,
 RT sequence, and expression of the rat insulin-like growth factor I
 RT gene.";
 RT J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RX MEDLINE=88003970; PubMed=3652906;
 RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
 RA Hoyt E.C., Lund P.K.;
 RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
 RT I precursor.";
 RT DNA 6:325-330(1987).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91103966; PubMed=1368571;
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;
 RT "A new cDNA clone relating to larger molecular species of rat
 RT insulin-like growth factor-I mRNA";
 RL Agric. Biol. Chem. 54:1599-1601(1990).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=89127259; PubMed=3221878;
 RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
 RT "Structure of the rat insulin-like growth factor II transcriptional
 RT unit: heterogeneous transcripts are generated from two promoters by
 RT use of multiple polyadenylation sites and differential ribonucleic
 RT acid splicing.";
 RL Mol. Endocrinol. 2:1115-1126(1988).
 RN [5]
 RP SEQUENCE OF 46-153 FROM N.A.
 RX MEDLINE=87246437; PubMed=3595538;
 RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
 RT "Identification, characterization, and regulation of a rat
 RT complementary deoxyribonucleic acid which encodes insulin-like growth
 RT factor-I.";
 RL Endocrinology 121:684-691(1987).
 RN [6]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=89174609; PubMed=2538424;
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
 RA Nakamura S., Niwa M., Zapf J.;
 RT "Primary structure of rat insulin-like growth factor-I and its
 RT biological activities.";
 RL J. Biol. Chem. 264:5616-5621(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.

```
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE) AND
CC ISOFORM IGF-IB (AC P08024); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; X06043; CAA29436.1; -
CC EMBL; M15651; AAA41215.1; -
CC EMBL; M15647; AAA41215.1; JOINED.
CC EMBL; M15648; AAA41215.1; JOINED.
CC EMBL; M15649; AAA41215.1; JOINED.
CC EMBL; M17714; AAA41227.1; -
CC EMBL; M17335; AAA41386.1; ALT_INIT.
CC EMBL; M15481; AAA41387.1; ALT_INIT.
CC PIR; A27849; A27849.
CC PIR; B27804; B27804.
CC PIR; A32857; A32857.
CC PIR; A28504; A28504.
CC HSSP; P05019; IGFI.
CC InterPro; IPRO00739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULIN.
CC PRINTS; PR00277; INSULIN.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 48
FT PROPEP ? 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E. PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF 4).
FT SIGNAL 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;
SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;
Query Match 75.3%; Score 450; DB 1; Length 153;
Best Local Similarity 95.3%; Pred. No. 7.1e-41;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 GPTTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
DB 49 GPTTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLKPAAKSARSVRAQRHDTMPKTK 86
DB 109 CAPLKPAAKSARSVRAQRHDTMPKTK 134
RESULT 13
IGFA_MOUSE
ID IGFA_MOUSE STANDARD; PRT; 127 AA.
AC P05017;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGFI OR IGF-1
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
```

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OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors.";
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE)
CC AND ISOFORM IGF-IB (AC P05018); ARE PRODUCED BY ALTERNATIVE
CC SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
CC EMBL; X04480; CAA28168.1; -
CC PIR; A25540; A25540.
CC HSSP; P05019; IGFI.
CC MGD; MGI:96432; Igfl.
CC InterPro; IPRO00739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULIN.
CC PRINTS; PR00277; INSULIN.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
KW SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 23 51 B.
FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DOMAIN 85 92 D.
FT PROPEP 93 127 E. PEPTIDE.
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 127 AA; 14120 MW; 1054B8CAC72DC2D7 CRC64;
Query Match 74.7%; Score 447; DB 1; Length 127;
Best Local Similarity 94.2%; Pred. No. 1.2e-40;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
QY 1 GPTTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
DB 23 GPTTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82
QY 61 CAPLKPAAKSARSVRAQRHDTMPKTK 86
DB 83 CAPLKPAAKSARSVRAQRHDTMPKTK 108
RESULT 14
IGFI_COTJA
ID IGFI_COTJA STANDARD; PRT; 124 AA.
AC P51462;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
DE (Fragment).
GN IGFI.
```

```
OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Coturnix.
OX NCBI_TaxID=93934;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95187621; PubMed=7881819;
RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA Noguichi T.;
RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT Japanese quail (Coturnix coturnix japonica): changes during growth
RT and development or after estrogen administration.";
RL Comp. Biochem. Physiol. 109C:191-204(1994)
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
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CC -----
DR EMBL; S75247; -; NOT_ANNOTATED_CDS.
DR HSSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma.
FT NON_TER 1
FT PROPEP <1 19 POTENTIAL.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 124 E PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;

Query Match 70.6%; Score 422; DB 1; Length 124;
Best Local Similarity 89.5%; Pred. No. 5.2e-38;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDRLRLEY 60
Db 20 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDRLRLEY 79
QY 61 CAPLPKASRSVRAQRHTDMPKTK 86
Db 80 CAPIKPKASRSVRAQRHTDMPKAK 105

RESULT 15
IGFL_CHICK STANDARD; PRT; 153 AA.
AC P18254;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
```

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OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190648; PubMed=2628728;
RA Kajimoto Y., Rotwein P.;
RT "Structure and expression of a chicken insulin-like growth factor I
RT precursor.";
RL Mol. Endocrinol. 3:1907-1913(1989).
RN [2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE=91236750; PubMed=2033062;
RA Rotwein P., Kajimoto Y.;
RT "Structure of the chicken insulin-like growth factor I gene reveals
RT conserved promoter elements.";
RL J. Biol. Chem. 266:9724-9731(1991).
RN [3]
RP SEQUENCE OF 49-118.
RX MEDLINE=91106695; PubMed=2272467;
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA McMurry J.P., Wallace J.C.;
RT "Chicken insulin-like growth factor-I: amino acid sequence,
RT radioimmunoassay, and plasma levels between strains and during
RT growth.";
RL Gen. Comp. Endocrinol. 79:459-468(1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
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CC -!- SUBCELLULAR LOCATION: Secreted.
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CC -----
DR EMBL; M32791; AAA48828.1; -.
DR EMBL; M74176; AAA48829.1; -.
DR PIR; A41399; A41399.
DR HSSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP 7 48 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 49 118 B.
FT DOMAIN 49 77 C.
FT DOMAIN 78 89 A.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
SEQUENCE 153 AA; 17267 MW; AA013FDED13EE2F8 CRC64;

Query Match 70.6%; Score 422; DB 1; Length 153;
Best Local Similarity 89.5%; Pred. No. 6.5e-38;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDRLRLEY 60
Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDRLRLEY 108
```

Search completed: October 25, 2002, 15:57:34
Job time : 6.62651 secs

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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:53:12 ; Search time 20.5422 Seconds
(without alignments)
926.360 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLGAELVDALQFVCGD.....STNKNKTSQRRKSGTTFEEHK 110

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Reached: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- 1: sp_archaea:*
- 2: sp_bacteria:*
- 3: sp_fungi:*
- 4: sp_human:*
- 5: sp_invertebrate:*
- 6: sp_mammal:*
- 7: sp_mhc:*
- 8: sp_organelle:*
- 9: sp_phage:*
- 10: sp_plant:*
- 11: sp_rodent:*
- 12: sp_virus:*
- 13: sp_vertebrate:*
- 14: sp_unclassified:*
- 15: sp_virus:*
- 16: sp_bacteriap:*
- 17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	590	98.7	139	4 Q13429	Q13429 homo sapien
2	468	78.3	130	4 Q9NP10	Q9np10 homo sapien
3	468	78.3	137	4 Q14620	Q14620 homo sapien
4	463	77.4	133	6 Q9N1C1	Q9n1c1 bos taurus
5	458	76.6	139	6 P79167	P79167 equus caball
6	450	75.3	127	11 P97899	P97899 rattus sp.
7	422	70.6	153	13 Q93380	Q93380 meleagris g
8	403.5	67.5	161	13 Q91230	Q91230 oncorhynch
9	401	67.1	145	13 Q91475	Q91475 salmo salar
10	401	67.1	155	13 Q91162	Q91162 oncorhynch
11	401	67.1	188	13 Q91965	Q91965 oncorhynch
12	401	67.1	188	13 P81268	P81268 oncorhynch
13	399.5	66.8	178	13 Q91BI0	Q91bi0 cyprinus ca
14	399	66.7	116	13 Q91161	Q91161 oncorhynch
15	399	66.7	149	13 Q91231	Q91231 oncorhynch
16	392	65.6	117	13 Q91476	Q91476 salmo salar

17	390.5	65.3	161	13	Q90VV9	Q90vv9 brachydanio
18	382.5	64.0	117	13	Q91914	Q91914 ctenopharyn
19	381	63.7	161	13	Q9PWK2	Q9pwk2 carassius a
20	379.5	63.5	161	13	Q98SR6	Q98sr6 megalobrama
21	378	63.2	161	13	Q9YI82	Q9yi82 carassius a
22	377	63.0	185	13	Q57436	O57436 paralichthy
23	377	63.0	186	13	Q93527	Q93527 paralichthy
24	376.5	63.0	159	13	Q93607	Q93607 paralichthy
25	376	62.9	182	13	P79824	P79824 oreochromis
26	376	62.9	182	13	Q73720	Q73720 oreochromis
27	376	62.9	182	13	Q42289	Q42289 oreochromis
28	370	61.9	186	13	Q9PSX5	Q9psx5 paralichthy
29	365.5	59.4	185	13	Q9Y157	Q9y157 acanthopagr
30	355	59.4	66	6	Q9N1S6	Q9n1s6 capreolus c
31	351	58.7	184	13	Q42336	Q42336 myoxocephal
32	333.5	55.8	69	6	Q02807	Q02807 bubalus bub
33	302	50.5	57	6	Q28236	Q28236 cervus elap
34	298.5	49.9	126	13	Q91442	Q91442 squallus aca
35	278	46.5	62	13	Q91AA0	Q91aa0 carassius a
36	264	44.1	215	13	Q73721	Q73721 tilapia sp.
37	261	43.6	215	13	Q42429	Q42429 lates calca
38	256.5	42.9	207	13	Q90XD0	Q90xd0 cyprinus ca
39	255.5	42.7	187	13	Q57687	Q57687 taenopygia
40	250.5	41.9	217	13	Q90WM4	Q90wm4 xenopus lae
41	248.5	41.6	187	13	P79890	P79890 gallus gall
42	235.5	39.4	154	11	Q63265	Q63265 rattus norv
43	232.5	38.9	197	13	Q9PUD0	Q9pud0 brachydanio
44	230	38.5	149	6	Q9MYX4	Q9myx4 bos indicus
45	227	38.0	106	6	Q9MYZ6	Q9myz6 trichosurus

ALIGNMENTS

RESULT 1

ID	Q13429	PRELIMINARY;	PRT;	139 AA.
AC	Q13429;			
DT	01-NOV-1996 (Tremblrel. 01, Created)			
DT	01-NOV-1996 (Tremblrel. 01, Last sequence update)			
DT	01-DEC-2001 (Tremblrel. 01, Last annotation update)			
DE	INSULIN-LIKE GROWTH FACTOR-I (FRAGMENT).			
GN	IGF-I.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.			
OX	NCBI_TaxID=9606;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=LIVER;			
RX	MEDLINE=95237119; PubMed=7720641;			
RT	Chew S.L., Lavender P., Clark A.J., Ross R.J.;			
RT	"An alternatively spliced human insulin-like growth factor-I			
RT	transcript with hepatic tissue expression that diverts away from the			
RT	mitogenic IBEI peptide."			
RL	Endocrinology 136:1939-1944(1995).			
CC	-!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).			
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.			
DR	EMBL; U0870; AAA96152.1; -.			
DR	HSSP; P01343; 1GF1.			
DR	InterPro; IPR000739; Insulin_IGF_relaxin.			
DR	Pfam; PF00049; Insulin; 1.			
DR	PRINTS; PR00276; INSULINA.			
DR	PRINTS; PR00277; INSULINB.			
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.			
DR	SMART; SM00078; IIGF; 1.			
DR	PROSITE; PS00262; INSULIN; 1.			
FT	NON_TER			
SQ	SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;			

Query Match 98.7%; Score 590; DB 4; Length 139;
Best Local Similarity 99.1%; Pred. No. 1.9e-63;
Matches 109; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRCDLRLEMY 60
DB 29 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRCDLRLEMY 88
QY 61 CAPLPAKSARSVRAQRHDTMPKTK 86
DB 89 CAPLPAKSARSVRAQRHDTMPKTK 114

RESULT 5
P79167
ID P79167 PRELIMINARY; PRT; 139 AA.
AC P79167;
DT 01-MAY-1997 (TReMBLrel. 03, Created)
DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
INSULIN-LIKE GROWTH FACTOR IB PRECURSOR (IGF-IB) (SOMATOMEDIN C) (FRAGMENTS).
IGFI.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE OF 1-122 FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=97013467; PubMed=8860303;
RA Otte K., Rozell B., Gessbo A., Engstrom W.;
RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA and its expression in fetal and adult tissues.";
RL Gen. Comp. Endocrinol. 102:11-15(1996).
RN [2]
RP SEQUENCE OF 123-139 FROM N.A.
RA Nixon A.J., Toland B.D., Sandell L.J.;
RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: SECRETED.
CC -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
EMBL; U28070; AAA68952.1; -;
HSSP; P01343; IGFI.
InterPro; IPR000739; Insulin_IGF_relaxin.
Pfam; PF00049; Insulin. 1.
PRINTS; PR00276; INSULINA.
PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; UNKNOWN. 1.
KW Insulin family; Growth factor; Signal.
FT SIGNAL 1 ?
FT PROPEP ? 48 BY SIMILARITY.
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 >139 E PEPTIDE.
FT NON_CONS 122 123
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT NON_TER 139 139
SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;

Query Match 76.6%; Score 458; DB 6; Length 139;
Best Local Similarity 85.3%; Pred. No. 1.6e-47;
Matches 87; Conservative 1; Mismatches 2; Indels 12; Gaps 1;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRCDLRLEMY 60
DB 49 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRCDLRLEMY 108
QY 61 CAPLPAKSARSVRAQRHDTMPKTKYQPPSTNKNTKSQRK 102
DB 109 CAPLPAKSARSVRAQRHDTMPKTKYQPPSTNKNTKSQRK 138

RESULT 6
P97899
ID P97899 PRELIMINARY; PRT; 127 AA.
AC P97899;
DT 01-MAY-1997 (TReMBLrel. 03, Created)
DT 01-MAY-1997 (TReMBLrel. 03, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
INSULIN-LIKE GROWTH FACTOR I.
OS Rattus sp.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10118;
RN [1]
RP PARTIAL SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat insulin-like growth factor-I mRNA.";
RL Agric. Biol. Chem. 54:1599-1601(1990).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
EMBL; D00698; BAA00604.1; -;
HSSP; P01343; IGFI.
InterPro; IPR000739; Insulin_IGF_relaxin.
Pfam; PF00049; Insulin. 1.
PRINTS; PR00276; INSULINA.
PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT CHAIN 23 92 POTENTIAL.
SQ SEQUENCE 127 AA; 14106 MW; 104E126BCFCA5CB7 CRC64;

Query Match 75.3%; Score 450; DB 11; Length 127;
Best Local Similarity 95.3%; Pred. No. 1.3e-46;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRCDLRLEMY 60
DB 23 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQGTGIVDECCFRCDLRLEMY 82

RESULT 7
O93380
ID O93380 PRELIMINARY; PRT; 153 AA.
AC O93380;
DT 01-NOV-1998 (TReMBLrel. 08, Created)
DT 01-NOV-1998 (TReMBLrel. 08, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
INSULIN-LIKE GROWTH FACTOR-I PRECURSOR.
GN IGFI.

OS Meleagris gallopavo (Common turkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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OC Archosauria: Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
OX NCBI_TaxID=9103;
RN [1]
RC STRAIN-BIG 6 ML TOM; TISSUE=LIVER;
RP Cerwinski S.M., Ashwell C.M., McMurry J.P.;
RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF074980; AAC26006.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRODOM; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL 1 48 POTENTIAL.
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR-I.
SQ SEQUENCE 153 AA; 17295 MW; 5AF1E5B8D13C70B5 CRC64;
Query Match 70.6%; Score 422; DB 13; Length 153;
Best Local Similarity 89.5%; Pred. No. 4e-43;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPETLCGAELVDALQFVCGDRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
Db 49 GPETLCGAELVDALQFVCGDRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
QY 61 CAPLKPASARSVRAQRHTDMPKTKQ 86
Db 109 CAPIKPKSARSVRAQRHTDMPKRAQK 134
RESULT 8
O91230 PRELIMINARY; PRT; 161 AA.
AC O91230;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DE 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15961; AAA67267.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRODOM; PD001048; Insulin_IGF_relaxin; 1.
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DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;
Query Match 67.5%; Score 403.5; DB 13; Length 161;
Best Local Similarity 72.0%; Pred. No. 7.2e-41;
Matches 77; Conservative 12; Mismatches 15; Indels 3; Gaps 2;
QY 1 GPETLCGAELVDALQFVCGDRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
Db 45 GPETLCGAELVDLTQFVCGERGFFYSKPTGYGSSRRSHNRGIVDECCFQSCDLRRLEMY 104
QY 61 CAPLKPASARSVRAQRHTDMPKTKQYQPPSTNKNT--KSQRKRGST 105
Db 105 CAPVKSAGKARSVRAQRHTDMPKTK-KPLSGNSHTSCKEVHQNKS 150
RESULT 9
O91475 PRELIMINARY; PRT; 145 AA.
AC O91475;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DE 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Salmo salar (Atlantic salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX NCBI_TaxID=6030;
RN [1]
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duquay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like growth factor I prohormones in salmon.";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81904; AAA18211.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRODOM; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1 18 POTENTIAL.
FT SIGNAL <1 18 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 19 >88
FT NON_TER 145 145
SQ SEQUENCE 145 AA; 15885 MW; 3D94EDF477268FC4 CRC64;
Query Match 67.1%; Score 401; DB 13; Length 145;
Best Local Similarity 72.3%; Pred. No. 1.3e-40;
Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;
QY 1 GPETLCGAELVDALQFVCGDRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
Db 19 GPETLCGAELVDLTQFVCGERGFFYSKPTGYGSSRRSHNRGIVDECCFQSCDLRRLEMY 78
QY 61 CAPLKPASARSVRAQRHTDMPKTKQYQPPSTNKNTKSRR 101
Db 79 CAPVKSAGKARSVRAQRHTDMPKTKVSTAVQNVDRGTERR 119
RESULT 10
O91162 PRELIMINARY; PRT; 155 AA.
AC O91162;
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DT	01-NOV-1996 (TReMBLrel. 01, Created)
DT	01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DT	01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE	INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
DE	Oncorhynchus kisutch (Coho salmon).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC	Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX	NCBI_TaxID=8019;
OX	[1]
RN	SEQUENCE FROM N.A.
RP	
RC	TISSUE=LIVER;
RC	
RX	MEDLINE=93024477; PubMed=1406698;
RA	Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RA	"Nucleotide sequence and tissue distribution of three insulin-like
RT	growth factor I prohormones in salmon.";
RT	Mol. Endocrinol. 6:1202-1210(1992).
CC	-!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR	EMBL; M81913; AAA49413.1; .
DR	HSSP; P01343; IGFI.
DR	InterPro; IPR000739; Insulin_IGF_relaxin.
DR	Pfam; PF00049; Insulin; 1.
DR	PRINTS; PR00276; INSULINA.
DR	PRINTS; PR00277; INSULINB.
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR	SMART; SM00078; IIGF; 1.
DR	PROSITE; PS00262; INSULIN; 1.
KW	Signal.
FT	NON_TER 1 1
FT	SIGNAL <1 18
FT	CHAIN 19 >88
FT	CONFLICT 73 73
FT	NON_TER 155 155
FT	SEQUENCE 155 AA; 16968 MW; 022FD3CA39CA3160 CRC64;
SQ	
Query Match 67.1%; Score 401; DB 13; Length 155;	
Best Local Similarity 72.3%; Pred No. 1.4e-40;	
Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps	
OY	1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGYVDECCFRSCDLRRLEY 60
Db	19 GPTLCGAELVDTLQFVCGERGFGYFKPTGYGPPSSRRSHNRGIVDECCFQSCELRRLEY 78
OY	61 CAPLKPAAKSARSVRAQRHTDMPKTKOYQPPSTNKNKTSQRR 101
Db	79 CAPVKGKAARSVRAQRHTDMPRTPKVSTAVQNVDRGTErr 119
RESULT 11	
O91965	
ID	PRELIMINARY; PRT; 188 AA.
AC	O91965;
DT	01-NOV-1996 (TReMBLrel. 01, Created)
DT	01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DT	01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE	INSULIN-LIKE GROWTH FACTOR I.
GN	Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OS	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC	Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX	NCBI_TaxID=74940;
OX	[1]
RP	SEQUENCE FROM N.A.


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DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX Devlin R.H.;
RN Submitted (OCT-1994) to the EMBL/GenBank/DDBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15962; AAA67268.1; -.
DR HSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINA.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; IIGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 149 AA; 16507 MW; 9AC8F072762D2AA0 CRC64;

Query Match 66.7%; Score 399; DB 13; Length 149;
Best Local Similarity 75.5%; Pred. No. 2.3e-40;
Matches 74; Conservative 10; Mismatches 12; Indels 2; Gaps 1;

QY 1 GPETLCGAEIVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
Db 45 GPETLCGAEIVDTLQVCGDRGFYFSKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLEY 104

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTKR--YPPSTNKNT 96
Db 105 CAPVKSAAARSVRAQRHTDMPKTPKEVHQKNSRGNT 142

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OM protein - protein search, using sw model

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1:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1980.DAT.*		
2:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1981.DAT.*		
3:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1982.DAT.*		
4:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1983.DAT.*		
5:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1984.DAT.*		
6:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1985.DAT.*		
7:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1986.DAT.*		
8:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1987.DAT.*		
9:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1988.DAT.*		
10:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1989.DAT.*		
11:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1990.DAT.*		
12:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1991.DAT.*		
13:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1992.DAT.*		
14:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1993.DAT.*		
15:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1994.DAT.*		
16:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1995.DAT.*		
17:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1996.DAT.*		
18:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1997.DAT.*		
19:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1998.DAT.*		
20:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1999.DAT.*		
21:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA2000.DAT.*		
22:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA2001.DAT.*		

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	602	100.0	111	AAE02449	Rabbit IGF-I isofo
2	602	100.0	121	AAW23301	Rabbit insulin lik
3	572.5	95.1	110	AAE02447	Human IGF-I isofo
4	536	89.0	195	AAE02448	Sequence of pre-pr
5	512	85.0	111	AAE02448	Rat IGF-I isoform
6	468	77.2	105	AAE02452	Rabbit liver-type
7	465	77.2	105	AAE02450	Human insulin-like
8	465	77.2	137	AAU09067	Human insulin-like
9	465	77.2	153	AAE02450	Insulin-like growt
10	465	77.2	153	AAE02450	Human IGF-I. Homo
11	465	77.2	153	AAW57882	Human IGF-I protei

12	465	77.2	156	18	AAW23302	Human insulin like
13	462	76.7	105	22	AAE02456	Rabbit liver-type
14	458	76.1	119	7	AAE02456	Human prepro-somat
15	456	75.7	154	14	AAW40844	Goat insulin like
16	454.5	75.5	191	19	AAW40844	Chimeric rhIGF-I-A
17	420	69.8	105	22	AAE02451	Rat liver-type IGF
18	420	69.8	105	22	AAE02531	Rat liver-type IGF
19	409	67.9	78	21	AAE02482	Pep 17 used in nuc
20	409	67.9	78	21	AAE02482	Peptide ligand pep
21	409	67.9	78	22	AAU04272	Nuclear ligand pep
22	409	67.9	78	22	AAU04272	Nuclear ligand pep
23	398	66.1	176	17	AAE02482	Nucleic acid trans
24	384.5	63.9	186	16	AAE02482	Rainbow trout insu
25	382	63.6	953	19	AAW56011	Flatfish insulin-l
26	382	63.5	70	5	AAE02482	Recombinant botuli
27	382	63.5	70	8	AAE02482	Sequence of human
28	382	63.5	70	8	AAE02482	Sequence of human
29	382	63.5	70	10	AAE02482	New insulin-like g
30	382	63.5	70	14	AAE02482	Insulin-like growt
31	382	63.5	70	14	AAE02482	hIGF-I. Homo sapi
32	382	63.5	70	14	AAE02482	Peptide derived fr
33	382	63.5	70	15	AAE02482	Human IGF-I peptid
34	382	63.5	70	15	AAE02482	Human IGF-I peptid
35	382	63.5	70	15	AAE02482	Sequence of insuli
36	382	63.5	70	16	AAE02482	Human insulin-like
37	382	63.5	70	17	AAE02482	Insulin like growt
38	382	63.5	70	17	AAE02482	Wild type IGF-I se
39	382	63.5	70	17	AAE02482	Recombinant insuli
40	382	63.5	70	18	AAE02482	Peptide derived fr
41	382	63.5	70	18	AAE02482	Human mature insul
42	382	63.5	70	21	AAE02482	Human insulin-like
43	382	63.5	70	21	AAE02482	Human insulin-like
44	382	63.5	70	21	AAE02482	Insulin like growt
45	382	63.5	70	21	AAE02482	Amino acid sequenc
						Native human insul

ALIGNMENTS

RESULT 1
AAE02449
ID AAE02449 standard; Protein; 111 AA.
AC AAE02449;
DT 10-AUG-2001 (first entry)
DE Rabbit IGF-I isoform mechano-growth factor (MGF) protein.
XX
XX Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
XX Oryctolagus cuniculus.
XX
XX WO200136483-A1.
XX
XX 25-MAY-2001.
XX
XX 15-NOV-2000; 2000WO-GB04354.
XX
XX 15-NOV-1999; 99GB-0026968.
XX
XX (UNLO) UNIV COLLEGE LONDON.
XX
XX Goldspink G, Johnson I;
XX WPI; 2001-355620/37.
XX N-PSDB; AAD06400.
DR

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX Claim 4; Page 54; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.

XX Sequence 111 AA;

Query Match 100.0%; Score 602; DB 22; Length 111;
 Best Local Similarity 100.0%; Pred. No. 9.9e-55;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 2

AAW23301
 ID AAW23301 standard; Protein; 121 AA.

XX AAW23301;

DT 14-APR-1998 (first entry)

XX Rabbit insulin like growth factor 1.

XX Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.

XX Oryctolagus cuniculus.

XX WO9733997-A1.

PN 18-SEP-1997.

XX 11-MAR-1997; 97WO-GB00658.

XX 11-MAR-1996; 96GB-0005124.

XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.

XX Goldspink G;

XX WPI; 1997-470877/43.

DR N-PSDB; AAT84893.

XX

PT Use of insulin like growth factor I characterised by presence of Ec
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases
 XX
 XX Disclosure; Fig 3; 33pp; English.

CC A use of Insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents rabbit
 CC IGF-I used in the present specification.

XX Sequence 121 AA;

Query Match 100.0%; Score 602; DB 18; Length 121;
 Best Local Similarity 100.0%; Pred. No. 1.1e-54;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 11 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 70

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111

DB 71 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 121

RESULT 3

AAE02447

ID AAE02447 standard; Protein; 110 AA.

XX AAE02447;

XX 10-AUG-2001 (first entry)

XX Human IGF-I isoform mechano-growth factor (MGF) protein.

XX Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.

XX Homo sapiens.

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB04354.

XX 15-NOV-1999; 99GB-0026968.

XX (UNLO) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

DR N-PSDB; AAD06398.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -

XX Claim 4; Page 50-51; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),

CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve

CC avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the

CC manufacture of a medicament for the treatment of a neurological disorder,

CC including a disorder of motoneurons and/or neurodegenerative disorder,

CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive

CC spinal muscular atrophy, infantile or juvenile muscular atrophy,

CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a

CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an

CC injury that affects motoneurons, motoneurone loss associated with aging,

CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.

CC The present sequence is human IGF-I isoform MGF. MGF is a muscle

CC isoform having extracellular (EC) domain, hence also referred as

CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by

CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame

CC of MGF.

XX Sequence 110 AA;

SQ

Query Match 95.1%; Score 572.5; DB 22; Length 110;

Best Local Similarity 96.4%; Pred. NO. 1.le-51;

Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

Db 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSORRRK 111

Db 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSORRRK 110

RESULT 4

AAAP70277

ID AAAP70277 standard; protein; 195 AA.

XX AAAP70277;

XX 05-APR-1991 (first entry)

Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).

Growth promoter; lactation enhancer; cell proliferation.

Homo sapiens.

EP229750-A.

22-JUL-1987.

06-JAN-1987; 87EP-0870001.

20-NOV-1986; 86US-0929671.

07-JAN-1986; 86US-0816662.

(UNIW) UNIV OF WASHINGTON.

Krivi GG, Rotwein PS;

WPI; 1987-200203/29.

New pre-pro-insulin-like growth factor-1 protein - obtd. by

recombinant DNA procedures for use as growth promoters for

enhancing lactation, for stimulating cell proliferation etc.

Claim 11; Fig 6; 59pp; English.

XX A 42 base oligonucleotide corresponding to the DNA sequence encoding

CC amino acids 10 to 23 of mature human IGF-I was synthesized (AA70437).

CC The radiolabeled 42 mer was then employed to screen for IGF-I

CC containing DNA sequences in a human liver cDNA library. Insulin-

CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA

CC library by using lambdaagt 11 (AA70435, AA70436). The human IGF-1

CC genomic gene was isolated and mapped. It encodes at least two

CC preproinsulin-like growth factor-1 proteins. An essentially pure

CC preproinsulin-like growth factor-1 protein comprising the sequence

CC of amino acids shown in Figure six is claimed (AA70277).

SQ Sequence 195 AA;

Query Match 89.0%; Score 536; DB 8; Length 195;

Best Local Similarity 96.1%; Pred. NO. 1.2e-47;

Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSORRR 102

Db 109 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSORRR 150

RESULT 5

AAE02448

ID AAE02448 standard; Protein; 111 AA.

XX AAE02448;

AC AAE02448;

XX 10-AUG-2001 (first entry)

Rat IGF-I isoform mechano-growth factor (MGF) protein.

Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

mechano-growth factor; neurological disorder; neurodegenerative disorder;

amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

sex-linked muscular dystrophy; peripheral neuropathy;

Alzheimer's disease; Parkinson's disease.

Rattus sp.

WO200136483-A1.

25-MAY-2001.

15-NOV-2000; 2000WO-GB04354.

15-NOV-1999; 99GB-0026968.

(UNLO) UNIV COLLEGE LONDON.

Goldspink G, Johnson I;

WPI; 2001-355620/37.

N-PSDB; AAD06399;

Use of mechano-growth factor, an isoform of Insulin-like Growth

Factor-I, capable of reducing motoneurone loss, in the manufacture of a

medicament for the treatment of neurological disorder -

Claim 4; Page 52; 66pp; English.

The present invention relates to use of mechano-growth factor (MGF),

an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

medicament for the treatment of neurological disorder. The MGF is capable

of reducing motoneurone loss by 20% or greater in response to nerve

avulsion, and effects motoneurone rescue, preferably adult motoneurone

PT medicament for the treatment of neurological disorder -

PS Disclosure: Fig 8; 56pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult in the
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is human liver-type IGF-I isoform (L-IGF-I).
 CC The L-IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 5.

XX Sequence 105 AA;

Query Match 77.2%; Score 465; DB 22; Length 105;

Best Local Similarity 98.8%; Pred. No. 1.3e-40;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60

DB 1 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60

QY 61 CAPLPKAAARSVRAQRHTDMPKTOK 86
 |||||:|||||

DB 61 CAPLPKAAARSVRAQRHTDMPKTOK 86

RESULT 8

AAU09067

ID AAU09067 standard; Protein: 137 AA.

XX AC

XX AAU09067;

DT 19-DEC-2001 (first entry)

Human insulin-like growth factor, IGF1.

KW Human; long-term memory protein; LTM; insulin-like growth factor;
 KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;
 KW cerebroprotective; drug discovery; therapeutic profiling;
 KW learning disability; memory impairment; brain injury; epilepsy;
 KW mental retardation; senile dementia; Alzheimer's disease.

XX Homo sapiens.

XX WO200174298-A2.

XX 11-OCT-2001.

XX 02-APR-2001; 2001WO-US10661.

PR 31-MAR-2000; 2000US-193614P.

XX (UYBR-) UNIV BROWN RESEARCH FOUND.
 XX (HUGH-) HUGHES HOWARD MED INST.

PI Alberini CM, Bear MF;

XX WPI; 2001-626335/72.
 DR N-PSDB; AAS14695.

XX Regulating memory consolidation in an animal comprising treating with

PT an agent that modulates activity of one or more genes from zif268,
 PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF
 XX Disclosure: Page 90-91; 100pp; English.

XX The invention relates to modulating long term memory consolidation in an
 CC animal comprises treating with an agent that modulates the activity of
 CC one or more of genes from zif268, insulin-like growth factor (IGF),
 CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
 CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
 CC for identifying an agent which modulates memory consolidation. The method
 CC is useful for conducting a drug and/or target discovery business, which
 CC comprises conducting therapeutic profiling of the agents (or their
 CC analogues) identified, for efficacy and toxicity in animals, and
 CC formulating a pharmaceutical preparation including one or more agents
 CC identified as having an acceptable therapeutic profile and/or licensing
 CC to a third party the rights for further drug development of the
 CC identified agents. The method of conducting drug discovery business
 CC further comprises an additional step of establishing a distribution
 CC system for distributing the preparation for sale and may optionally
 CC include establishing a sales group for marketing the preparation. A
 CC pharmaceutical composition containing the agent is useful for enhancing
 CC memory consolidation in an animal, or for augmenting learning and memory,
 CC or otherwise for enhancing the functional performance of central nervous
 CC system neurons, where the agent is a cAMP elevating agent (agonist)
 CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
 CC activates adenylyl cyclase. The composition is useful for treating
 CC diseases associated with learning disabilities, memory impairment e.g.
 CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
 CC children and senile dementia, including Alzheimer's disease. The
 CC present sequence represents human insulin-like growth factor, IGF1.

XX Sequence 137 AA;

Query Match 77.2%; Score 465; DB 22; Length 137;

Best Local Similarity 98.8%; Pred. No. 1.8e-40;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60
 |||||:|||||

DB 33 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 92

QY 61 CAPLPKAAARSVRAQRHTDMPKTOK 86

DB 93 CAPLPKAAARSVRAQRHTDMPKTOK 118

RESULT 9

AAAR83803

ID AAR83803 standard; protein: 153 AA.

XX AC

XX AAR83803;

DT 15-FEB-1996 (first entry)

XX Insulin-like growth factor 1.

XX Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
 KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
 KW burn; wound; brain metastasis.

XX Homo sapiens.

XX Key Location/Qualifiers
 FT Peptide 49..118
 FT /label= mature peptide
 FT Domain 49..77

FT /label= B domain
 FT Domain 78..89

FT /label= C domain
 FT Domain 90..110

FT /label= A domain
 FT Domain 111..118

```
FT XX /label= D domain
PN XX W09516703-A1.
XX XX
PD XX 22-JUN-1995.
XX XX
PF XX 15-DEC-1994; 94WO-US14576.
XX XX
PR XX 15-DEC-1993; 93US-0167653.
XX XX
PA (UYJE-) UNIV JEFFERSON THOMAS.
XX XX
PI Baserga R, Jameson BA;
XX XX
DR WPI; 1995-231515/30.
XX XX
XX New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
PT in treatment of diseases associated with undesirable cell
PT proliferation
XX XX
PS Disclosure; Page 20-21; 28pp; English.
XX XX
XX The amino acid sequence of the insulin-like growth factor 1 pre-protein.
XX Processing of the protein results in a 70 amino acid mature protein. The
XX mature protein is split into 4 domains; the B domain has strong homology
XX to the B chain of insulin, the A domain similarly has homology to the A
XX chain of insulin. These domains are separated by a C domain and the
XX mature protein is terminated by a D domain at the C-terminus. The D
XX domain sequence was used to synthesize peptides (AAR83801-2) that
XX include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
XX binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
XX activation of the IGF-1R by autophosphorylation of the IGF-1R.
XX Activated IGF-1R is associated with cellular growth and proliferation.
XX The synthetic peptides are useful as inhibitors of IGF-1 binding to
XX IGF-1R and thus may be used in the treatment of disorders characterised
XX by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
XX wounds or brain metastases.
XX XX
SQ Sequence 153 AA;
Query Match 77.2%; Score 465; DB 16; Length 153;
Best Local Similarity 98.8%; Pred. No. 2e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 60
DB 49 GPTLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKAAARSVRAQRHTDMPKTQK 134
SQ Sequence 153 AA;
Query Match 77.2%; Score 465; DB 16; Length 153;
Best Local Similarity 98.8%; Pred. No. 2e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 60
DB 49 GPTLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKAAARSVRAQRHTDMPKTQK 134
RESULT 10
AAW69733
ID AAW69733 standard; Protein; 153 AA.
XX AAW69733;
AC AAW69733;
DT 26-OCT-1998 (first entry)
XX Human IGF-1.
DE Human IGF-1.
KW IGF-1; insulin-like growth factor 1; urinary incontinence;
KW Human; IGF-1; insulin-like growth factor 1; urinary incontinence;
KW gene therapy; neurotrophic factor.
XX Homo sapiens.
OS Homo sapiens.
XX W09833529-A1.
PN W09833529-A1.
XX 06-AUG-1998.
XX 04-FEB-1998; 98WO-US02051.
PF 04-FEB-1998; 98WO-US02051.
```

```
XX 04-FEB-1997; 97US-0036862.
XX (GENE-) GENEMEDICINE INC.
XX Coleman M;
PI Coleman M;
XX WPI; 1998-437184/37.
DR N-PSDB; AAV50425.
XX Treatment of urinary incontinence - by delivering nucleic acid
PT vector for expression of growth factor or neurotrophic factor in
PT tissue(s)
XX Claim 12d; Page 108-109; 117pp; English.
XX A method has been developed of treating urinary incontinence (UI) in
CC mammals. The method comprises delivering a nucleic acid vector for the
CC expression of a growth factor or neurotrophic factor in a tissue or
CC tissues. The present sequence represents human IGF-1 (insulin-like
CC growth factor 1) which is used in the method of the invention. Due to
CC the growth and stimulatory effects of growth factors and neurotrophic
CC factors, introducing these factors to degenerated muscles in the
CC urinary system can improve UI by enhancing both their integrity and
CC neural innervation.
XX Sequence 153 AA;
Query Match 77.2%; Score 465; DB 19; Length 153;
Best Local Similarity 98.8%; Pred. No. 2e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 60
DB 49 GPTLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLEY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKAAARSVRAQRHTDMPKTQK 134
RESULT 11
AAW57882
ID AAW57882 standard; Protein; 153 AA.
XX AAW57882;
AC AAW57882;
DT 23-SEP-1998 (first entry)
XX Human IGF-I protein.
DE Human IGF-I protein.
KW IGF-I; insulin-like growth factor I; skeletal alpha-actin gene promoter;
KW muscle atrophy; diabetes; osteoporosis; growth disorder; therapy; AIDS;
KW Chacot-Marie-Tooth disease; atherogenesis; haemophilia; neuropathy.
XX Homo sapiens.
OS Homo sapiens.
XX W09824922-A1.
PN W09824922-A1.
XX 11-JUN-1998.
PD 11-JUN-1998.
XX 01-DEC-1997; 97WO-US21852.
PF 01-DEC-1997; 97WO-US21852.
XX 19-NOV-1997; 97US-0974572.
PR 19-NOV-1997; 97US-0974572.
XX 02-DEC-1996; 96US-0031539.
PR 02-DEC-1996; 96US-0031539.
XX (BAY) BAYLOR COLLEGE MEDICINE.
PA (BAY) BAYLOR COLLEGE MEDICINE.
XX (GENE-) GENEMEDICINE INC.
PI (GENE-) GENEMEDICINE INC.
XX Coleman M, Demayo FJ, Schwartz R;
PI Coleman M, Demayo FJ, Schwartz R;
XX WPI; 1998-333339/29.
DR WPI; 1998-333339/29.
XX N-PSDB; AAV40793, AAV40794.
```


XX Goldspink G, Johnson I;
 XX WPI: 2001-355620/37.
 DR N-PSDB; AAD06405.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 PS Disclosure; Fig 10; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is alternative version of rabbit liver-type IGF-I
 CC isoform (L-IGF-I). The L-IGF-I protein comprises amino acid sequences
 CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence is stated as being the same as SEQ ID NO:14
 CC shown in sequence listing (AAE02452) of the specification. However
 CC it differs at few positions.
 XX
 XX Sequence 105 AA;

Query Match 76.7%; Score 462; DB 22; Length 105;
 Best Local Similarity 97.7%; Pred. No. 2.7e-40;
 Matches 84; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
 QY 1 GPTTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60
 DB 1 GPTTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTOK 86
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTOK 86

RESULT 14
 AAP60578
 AAP60578 standard; Protein; 119 AA.
 AC AAP60578;
 DT 31-JUL-1991 (first entry)
 DE Human prepro-somatomedin-C.
 KW Somatomedin-C.
 FH Key Location/Qualifiers
 FT Protein 1..119
 FT /label= prepro-somatomedin-C
 FT Protein 15..84
 FT /label= mature somatomedin-C
 XX WO8600619-A.
 XX 30-JAN-1986.
 XX 10-JUL-1985; 85WO-US01325.

PR 13-JUL-1984; 84US-0630557.
 XX (CHIR-) CHIRON CORP.
 XX Bell G, Rall LB, Merryweather JP;
 DR WPI; 1986-042104/06.
 XX N-PSDB; AAN60490.
 PT Pre-pro insulin-like growth factors I and II - obtd. from the
 PT human genome by e.g. screening a cDNA library obtd. from human
 PT liver cells.
 XX Disclosure; Fig 1; 20pp; English.
 CC The sequence is human prepro-somatomedin-C. DNA probes
 CC prepared against DNA encoding the protein sequence may be used to
 CC detect the presence of the genes in a natural source. The probes
 CC may be used to detect mutations and/or deletions in humans
 CC suffering from growth deficiencies.
 CC See also AAN60489, AAN60491
 XX Sequence 119 AA;
 QY 1 GPTTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60
 DB 15 GPTTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 74
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTOK 86
 DB 75 CAPLKPAAKARSVRAQRHTDMPKTOK 100
 RESULT 15
 AAR40844
 ID AAR40844 standard; Protein; 154 AA.
 AC AAR40844;
 DT 03-MAR-1994 (first entry)
 DE Goat Insulin like growth factor 1 (IGF-1) precursor.
 XX Insulin; growth factor; bone; tumour therapy.
 OS Capra hircus.
 PN JP05199878-A.
 PD 10-AUG-1993.
 PF 02-DEC-1991; 91JP-0347820.
 PR 02-DEC-1991; 91JP-0347820.
 PA (KOMA/) KOMANO T.
 XX WPI; 1993-284680/36.
 DR N-PSDB; AAQ47804.
 XX Goat insulin-like growth factor I - useful for prepn. of
 PT insulin-like growth factor I used for growth of bone and tumour
 PT therapy
 PS Claim 2; Figure 1; 6pp; Japanese.
 CC The goat IGF precursor is useful for the preparation of IGF-1 which
 CC is used for growth of bone and the therapy of tumours. The IGF-1
 CC precursor is prepared by inserting the coding sequence into an

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:52 ; Search time 10.0301 Seconds
(without alignments)
270.310 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPEITLCAELVDALQFVCGD.....TNKKMKSORRRKGSTFEHKK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

- Database :
- 1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep.*
 - 2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep.*
 - 3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep.*
 - 4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep.*
 - 5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep.*
 - 6: /cgn2_6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	602	100.0	121	4	US-09-142-583A-4
2	465	77.2	137	1	Sequence 4, Appli
3	465	77.2	152	3	Sequence 10, Appl
4	465	77.2	153	1	Sequence 9, Appli
5	465	77.2	133	5	Sequence 1, Appli
6	465	77.2	156	4	Sequence 11, Appl
7	458	76.1	119	6	Patent No. 5405942
8	454.5	75.5	191	3	US-09-142-583A-11
9	454.5	75.5	191	3	US-08-989-251-41
10	454.5	75.5	191	4	Sequence 41, Appl
11	409	67.9	78	2	Sequence 41, Appl
12	409	67.9	78	3	Sequence 47, Appl
13	409	67.9	78	4	Sequence 47, Appl
14	409	67.9	78	4	Sequence 47, Appl
15	398	66.1	176	1	Sequence 9, Appli
16	382	63.5	70	1	Sequence 1, Appli
17	382	63.5	70	1	Sequence 17, Appl
18	382	63.5	70	1	Sequence 17, Appl
19	382	63.5	70	1	Sequence 17, Appl
20	382	63.5	70	1	Sequence 17, Appl
21	382	63.5	70	1	Sequence 17, Appl
22	382	63.5	70	3	Sequence 1, Appli
23	382	63.5	70	3	Sequence 1, Appli
24	382	63.5	70	4	Sequence 1, Appli
25	382	63.5	70	5	Sequence 1, Appli
26	382	63.5	70	5	Sequence 1, Appli
27	382	63.5	70	5	Sequence 1, Appli

US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/142,583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

ALIGNMENTS

RESULT 1

US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/142,583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

Query Match 100.0%; Score 602; DB 4; Length 121;
Best Local Similarity 100.0%; Pred. No. 2.8e-64;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLLEY 60

Db 11 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
QY 61 CAPLKPAKARSVRAORHTDMPKTKQYPPSTNKKMKSORRRKGSTFEHK 111
Db 71 CAPLKPAKARSVRAORHTDMPKTKQYPPSTNKKMKSORRRKGSTFEHK 121

RESULT 2
US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A

; FILING DATE: 30-SEP-1992

; CLASSIFICATION: 435

; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E

; REGISTRATION NUMBER: 36,113

; REFERENCE/DOCKET NUMBER: 028755-010

; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620

; TELEFAX: (703) 836-2021

; INFORMATION FOR SEQ ID NO: 10:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 137 amino acids

; TYPE: amino acid

; STRANDEDNESS: single

; TOPOLOGY: linear

; MOLECULE TYPE: protein

; FEATURE:

; NAME/KEY: Peptide

; LOCATION: 7

; OTHER INFORMATION: /note= "Gap of 2 after 7."

; FEATURE:

; NAME/KEY: Peptide

; LOCATION: 31

; OTHER INFORMATION: /note= "Gap of 1 after 31."

; FEATURE:

; NAME/KEY: Peptide

; LOCATION: 116

; OTHER INFORMATION: /note= "Gap of 27 after 116."

; US-07-953-230A-10

Query Match 77.2%; Score 465; DB 1; Length 137;
Best Local Similarity 98.8%; Pred. No. 6.3e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
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Db 33 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92
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QY 61 CAPLKPAKARSVRAORHTDMPKTKQ 86
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Db 93 CAPLKPAKARSVRAORHTDMPKTKQ 118
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RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.
; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
; US-08-950-720A-9

Query Match 77.2%; Score 465; DB 3; Length 152;
Best Local Similarity 98.8%; Pred. No. 7.1e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||

Db 23 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82
|||||

QY 61 CAPLKPAKARSVRAORHTDMPKTKQ 86
|||||

Db 83 CAPLKPAKARSVRAORHTDMPKTKQ 108
|||||

RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris

STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/219,878A
FILING DATE: 30-MAR-1994
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/881,524
FILING DATE: 08-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-1240
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: amino acid
TOPOLOGY: linear
US-08-219-878A-1

Query Match 77.2%; Score 465; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 7.2e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCRSCDLRLRLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCRSCDLRLRLEY 108
|||||

QY 61 CAPLCPAKAARSVRAQRHTDMPKTK 86
|||||
Db 109 CAPLCPAKAARSVRAQRHTDMPKTK 134
|||||

RESULT 5
US-08-219-878A-1

GENERAL INFORMATION:
APPLICANT: Bradford A. Jameson and Renato Baserga
TITLE OF INVENTION: IGF-1 Analogs
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn
ADDRESSER: Kurtz Mackiewicz & Norris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04329
FILING DATE: 19930507
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/881,524
FILING DATE: 08-MAY-92,
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca

REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-0649
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US93-04329-1

Query Match 77.2%; Score 465; DB 5; Length 153;
Best Local Similarity 98.8%; Pred. No. 7.2e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCRSCDLRLRLEY 60
|||||
Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCRSCDLRLRLEY 108
|||||

QY 61 CAPLCPAKAARSVRAQRHTDMPKTK 86
|||||
Db 109 CAPLCPAKAARSVRAQRHTDMPKTK 134
|||||

RESULT 6
US-09-142-583A-11

Sequence 11, Application US/09142583A
Patent No. 6221842
GENERAL INFORMATION:
APPLICANT: GOLDSPIK, GEOFREY
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22201
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/142,583A
FILING DATE: 29-Oct-1998
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB97/00658
FILING DATE: 11-MAR-1997
APPLICATION NUMBER: GB 9605124.8
FILING DATE: 11-MAR-1996
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36663
REFERENCE/DOCKET NUMBER: 117-263
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164000
TELEFAX: 7038164100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 156 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

Query Match 77.2%; Score 465; DB 4; Length 156;
Best Local Similarity 98.8%; Pred. No. 7.3e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

REPLY 8
US-08-989-251-41
; Sequence 41, Application US/08989251
; Patent No. 6017731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175

```

; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-251-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 1.7e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLRY 60
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLRY 145
QY 61 CAPLKPAAK-RSVRAQRHTDMPKTOK 86
Db 146 CAPLKPAAKRSVRAQRHTDMPKTOK 172

RESULT 9
US-09-340-250-41
; Sequence 41, Application US/09340250
; Patent No. 6083723
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer Ip Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/340,250
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 861 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-340-250-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 1.7e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLRY 60
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLRY 145
QY 61 CAPLKPAAK-RSVRAQRHTDMPKTOK 86

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Db 146 CAPLPAKSAKRSVRAQRHTDMPKTKQ 172
|||||:|||||

RESULT 10

US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/528,108
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-09-528-108-41

Query Match 75.5%; Score 454.5; DB 4; Length 191;
Best Local Similarity 97.7%; Pred. No. 1.7e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||:|||||
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 145
|||||:|||||
Qy 61 CAPLPAKAA-RSVRAQRHTDMPKTKQ 86
|||||:|||||
Db 146 CAPLPAKSAKRSVRAQRHTDMPKTKQ 172
|||||:|||||

RESULT 11

US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-890A-47

Query Match 67.9%; Score 409; DB 2; Length 78;
Best Local Similarity 96.1%; Pred. No. 1.5e-41;
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Qy 4 TLCAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMYCAP 63
|||||:|||||
Db 2 TLCAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
|||||:|||||
Qy 64 LKPAKARSVRAQRHTD 80
|||||:|||||
Db 62 LRPARSARSVRAQRHTD 78
|||||:|||||

RESULT 12

US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.

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; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/167,641C
; FILING DATE: December 14, 1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 205/012
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-167-641C-47

Query Match 67.98; Score 409
Best Local Similarity 96.18; Pred. No.
Matches 74; Conservative 3; Mismatch

QY 4 TLGGAEALVDALQFVCGDRGFYFNKPTGTGSSRSR
| | | | | | | | | | | | | | | | | | | |
Ddb 2 TLGGAEALVDALQFVCGDRGFYFNKPTGTGSSRSR
| | | | | | | | | | | | | | | | | | | |

QY 64 LKPAKAARSVRAQRHTD 80
| : | : | | | | | | | | | | | | | |
Ddb 62 LRPARSARSVRAQRHTD 78

RESULT 13
US-08-460-971A-47
; Sequence 47, Application US/08460971A
; Patent No. 6150168
GENERAL INFORMATION:
APPLICANT: Woo, Savio L.C.
APPLICANT: Smith, Louis C.
APPLICANT: Cristiano, Richard J.
APPLICANT: Gottchalk, Stephen
TITLE OF INVENTION: NUCLEIC ACID TRANSFER
TITLE OF INVENTION: METHODS OF USE
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Lyon & Lyon
STREET: 633 West Fifth Street
STREET: Suite 4700
CITY: Los Angeles
STATE: California
COUNTRY: U.S.A.
ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FastSeq for Windows 2.0
CURRENT APPLICATION DATA:

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; APPLICATION NUMBER: US/08/460, 971A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/063
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-971A-47

      Query Match          67.9%   Score 409; DB 4; Length 78;
      Best Local Similarity 96.1%; Pred.No.1.5e-41;
      Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0

QY    4  TLGCAELVDALQFCVGRGFYFNKPTGYGSSRRAPQTGVIDECCFRSCDLRRLMYCAP 63
      |||||||
Db     2  TLGCAELVDALQFCVGRGFYFNKPTGYGSSRRAPQTGVIDECCFRSCDLRRLMYCAP 61

QY    64 LKPAKAARSVRQRHTD 80
      |:::|||||
Db     62 LRPARSARSVRQRHTD 78

RESULT 14
US-08-462-040-47
; Sequence 47, Application US/08462040
; Patent No. 6177554
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/462,040
; FILING DATE: June 5, 1995
; CLASSIFICATION: 536
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993

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APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 212/078
TELECOMMUNICATION INFORMATION:
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-462-040-47

Query Match 67.9%; Score 409; DB 4; Length 78;
Best Local Similarity 96.1%; Pred. No. 1.5e-41;
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
QY 4 TLGGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMYCAP 63
Db 2 TLGGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMYCAP 61
QY 64 LKPAKAARSVRAQRHTD 80
Db 62 LRPARSARSVRAQRHTD 78

RESULT 15
US-07-953-230A-9
Sequence 9, Application US/07953230A
Patent No. 5476779
GENERAL INFORMATION:
APPLICANT: CHEN, Thomas T
APPLICANT: SHAMBLOTT, Michael J
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
TITLE OF INVENTION: FROM RAINBOW TROUT
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Burns, Doane, Swecker & Mathis
STREET: George Mason Bldg., Washington & Prince Sts.
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/953,230A
FILING DATE: 30-SEP-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Crane-Feury, Sharon E
REGISTRATION NUMBER: 36,113
REFERENCE/DOCKET NUMBER: 028755-010
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 176 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: protein
US-07-953-230A-9
Query Match 66.1%; Score 398; DB 1; Length 176;
Best Local Similarity 62.8%; Pred. No. 7.8e-40;
Matches 76; Conservative 9; Mismatches 20; Indels 16; Gaps 1;
QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60
Db 45 GPETLCGAELVDLTQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 104
QY 61 CAPLPAKAARSVRAQRHTDMPKTKY-----QPPSTNKKKKSQRRRG 104
Db 105 CAPVSKGAARSVRAQRHTDMPKTKYSTAVQSVDRGTERRTAQHPDKTKPKKEVHQKNS 164
QY 105 S 105
Db 165 S 165
Search completed: October 25, 2002, 16:00:05
Job time : 10.0301 secs

GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:51 ; Search time 6.68675 Seconds
(without alignments)
642.745 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCAELVDALQFVCGD.....TNKKMKSORRRKSGTFFEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

ched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	602	100.0	143	1	IGF1_RABIT
2	539	89.5	133	1	IGFB_MOUSE
3	536	89.0	195	1	IGFB_HUMAN
4	508	84.4	181	1	IGFB_RAT
5	465	77.2	130	1	IGF1_CAVPO
6	465	77.2	153	1	IGFA_HUMAN
7	460	76.4	122	1	IGF1_CANFA
8	460	76.4	153	1	IGF1_PIG
9	460	76.4	154	1	IGF1_BOVIN
10	456	75.7	154	1	IGF1_CAPHI
11	452	75.1	154	1	IGF1_SHEEP
12	450	74.8	127	1	IGFA_MOUSE
13	447	74.3	153	1	IGFA_RAT
14	419	69.6	124	1	IGF1_COTJA
15	419	69.6	153	1	IGF1_CHICK
16	417	69.3	81	1	IGF1_SUNNU
17	412.5	68.5	153	1	IGF1_XENLA
18	403	66.9	161	1	IGFB_CYPCA
19	402	66.8	176	1	IGF1_ONCKI
20	400	66.4	122	1	IGF1_HORSE
21	398	66.1	176	1	IGF1_ONCMY
22	393	65.3	161	1	IGFA_CYPCA
23	272	45.2	214	1	IGF2_ONCMY
24	242	40.2	179	1	IGF2_SHEEP
25	236	39.2	155	1	IGF2_BOVIN
26	232	38.5	180	1	IGF2_HUMAN
27	231	38.4	128	1	IGF2_CAVPO
28	229.5	38.1	129	1	IGF2_MUSVI
29	229	38.0	139	1	IGF2_MTXGL
30	229	38.0	181	1	IGF2_HORSE
31	229	38.0	181	1	IGF2_PIG
32	227	37.7	180	1	IGF2_MOUSE
33	224.5	37.3	180	1	IGF2_RAT

ALIGNMENTS

RESULT 1

ID	IGF1_RABIT	STANDARD;	PRT;	143 AA.
AC	Q95222; O18846;			
DT	01-NOV-1997 (Rel. 35, Created)			
DT	16-OCT-2001 (Rel. 40, Last sequence update)			
DT	16-OCT-2001 (Rel. 40, Last annotation update)			
DE	Insulin-like growth factor I precursor (IGF-I) (Somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Oryctolagus cuniculus (Rabbit).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.			
OX	NCBI_TaxID=9986;			
RN	[1]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1A).			
RC	STRAIN=ZIK;			
RA	Flekna G., Brem G., Mueller M.;			
RL	Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.			
RN	[2]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1B).			
RC	STRAIN=ZIK;			
RA	Flekna G., Brem G., Mueller M.;			
RL	Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.			
CC	-!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.			
CC	-!- SUBCELLULAR LOCATION: Secreted.			
CC	-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS: IGF-1A AND IGF-1B (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.			
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.			
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).			
EMBL	U75390; AAB48032.1; -			
EMBL	AF022961; AAB80950.1; -			
HSSP	P05019; IGF1.			
DR	InterPro: IPR000739; Insulin_IGF_relaxin.			
DR	Pfam: PF00049; Insulin; 1.			
DR	PRINTS: PR00276; INSULINA.			
DR	PRODom: PD001048; Insulin_IGF_relaxin; 1.			
DR	SMART: SM00078; ILGF; 1.			
DR	PROSITE: PS00262; INSULIN; 1.			
KW	Insulin family; Growth factor; Plasma; Signal; Alternative splicing.			
FT	SIGNAL	1	32	POTENTIAL.
FT	CHAIN	33	102	INSULIN-LIKE GROWTH FACTOR I.
FT	PROPEP	103	143	E PEPTIDE.
FT	DOMAIN	33	61	B.
FT	DOMAIN	62	73	C.
FT	DOMAIN	74	94	A.

```
FT DOMAIN 95 102 D.
FT DISULFID 38 80 BY SIMILARITY.
FT DISULFID 50 93 BY SIMILARITY.
FT DISULFID 79 84 BY SIMILARITY.
FT VARSPLIC 119 143 YOPPSTNKKMSORRRKSGTFFEHK -> EVHLKNTSRGSA
FT SEQUENCE 143 AA; 16091 MW; 819AF377800A1B1A CRC64;
SQ QUERY MATCH 100.0%; Score 602; DB 1; Length 143;
Best Local Similarity 100.0%; Pred. No. 2.8e-56;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDAFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLEY 60
DB 33 GPETLCGAEVLDAFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLEY 92
QY 61 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGTFFEHK 111
DB 93 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGTFFEHK 143

RESULT 2
IGFB_MOUSE
AC P05018; STANDARD; PRT; 133 AA.
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGFI OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempfen M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-1A (AC P05017) AND ISOFORM IGF-1B (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
CC EMBL; X04482; CAA28170.1;
CC PIR; B25540; B25540.
CC HSP; P05019; IGFI.
CC MGI; 96432; Igfl.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULIN.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC INSULIN family; Growth factor; Plasma; Alternative splicing; Signal.
KW SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 23 51 B.
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FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT PROPEP 93 133 E PEPTIDE..
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B88D62502 CRC64;
Query Match 89.5%; Score 539; DB 1; Length 133;
Best Local Similarity 91.0%; Pred. No. 1e-49;
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDAFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLEY 60
DB 23 GPETLCGAEVLDAFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLEY 82
QY 61 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGTFFEHK 111
DB 83 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGTFFEHK 133

RESULT 3
IGFB_HUMAN
AC P05019; STANDARD; PRT; 195 AA.
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGFI OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides."
RL J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86094355; PubMed=3455760;
RA Rotwein P.;
RT "Two insulin-like growth factor I messenger RNAs are expressed in human liver."
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M., van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I and II."
RL FEBS Lett. 195:179-184(1986).
RN [4]
RP SEQUENCE OF 22-50 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in relation to insulin gene family."
RL Nature 310:777-781(1984).
RN [5]
RP SEQUENCE OF 49-118.
RX MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin."
RL J. Biol. Chem. 253:2769-2776(1978).
RN [6]
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3D-STRUCTURE MODELING.
MEDLINE=83210259; PubMed=6189745;
Blundell T.L., Bedarkar S., Humbel R.E.;
"Tertiary structures, receptor binding, and antigenicity of
insulin-like growth factors.";
Fed. Proc. 42:2592-2597(1983).
[7]
STRUCTURE BY NMR.
MEDLINE=91242464; PubMed=2036417;
Cooke R.M., Harvey T.S., Campbell I.D.;
"Solution structure of human insulin-like growth factor 1: a nuclear
magnetic resonance and restrained molecular dynamics study.";
Biochemistry 30:5484-5491(1991).
[8]
STRUCTURE BY NMR.
MEDLINE=92316903; PubMed=1319992;
Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
Yasuda T., Kobayashi Y.;
"1H-NMR assignment and secondary structure of human insulin-like
growth factor-1 (IGF-1) in solution.";
J. Biochem. 111:529-536(1992).
[9]
DISULFIDE BONDS.
MEDLINE=89207850; PubMed=3242681;
Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
"Location of disulphide bonds in human insulin-like growth factors
(IGFs) synthesized by recombinant DNA technology.";
Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-1A AND IGF-1B ARE
PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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EMBL; M14155; AAA52537.1; -
EMBL; M12659; AAA52537.1; JOINED.
EMBL; M14153; AAA52537.1; JOINED.
EMBL; M14154; AAA52537.1; JOINED.
EMBL; M11568; AAA52539.1; -
EMBL; X03563; CA27250.1; ALT_SEQ.
EMBL; X03420; CA27152.1; -
EMBL; X03421; CA27153.1; -
EMBL; X03422; CA27154.1; -
PIR; A01611; IGHU1B.
PIR; A23614; A23614.
PIR; A26181; A26181.
PIR; S30540; S30540.
PDB; 1GF1; 15-OCT-94.
PDB; 2GF1; 15-APR-93.
PDB; 3GF1; 15-APR-93.
MIM; 147440; -
MIM; 265850; -
InterPro; IPR000739; Insulin_IGF_relaxin.
PIR; PF00049; Insulin; 1.
PRINTS; PR00276; INSULIN.
PRINTS; PR00277; INSULIN.
ProDom; PD001048; Insulin_IGF_relaxin; 1.
SMART; SM00078; IGF; 1.
PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; 3D-structure; Plasma;
Alternative splicing; Signal.
FT SIGNAL 1 21
PROPEP 22 48

FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 195 E PEPTIDE.
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT HELIX 56 65
FT TURN 66 68
FT STRAND 78 78
FT TURN 79 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;
Query Match 89.0%; Score 536; DB 1; Length 195;
Best Local Similarity 96.1%; Pred. No. 3.2e-49;
Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLVALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRCDLRRLRY 60
DB 49 GPETLCGAEVLVALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRCDLRRLRY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRR 102
DB 109 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRR 150
RESULT 4
ID IGF-RAT STANDARD; PRT; 181 AA.
AC P08024;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DE 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
OS IGF1 OR IGF-1.
GS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=88015572; PubMed=3658684;
RA Shimatsu A., Rotwein P.;
RT "Sequence of two rat insulin-like growth factor I mRNAs differing
RT within the 5' untranslated region.";
RL Nucleic Acids Res. 15:7196-7196(1987).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic

```
RT acid splicing.;
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [4]
RN SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapp J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC TISSUE=Pancreas;
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P08025) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; M15650; AAA41214.1; .
DR EMBL; M15647; AAA41214.1; JOINED.
DR EMBL; M15648; AAA41214.1; JOINED.
DR EMBL; M15649; AAA41214.1; JOINED.
DR EMBL; X06107; CAA29480.1; ALT_SEQ.
DR EMBL; M15480; AAA41385.1; ALT_SEQ.
DR PIR; A27804; A27804.
DR PIR; A26859; A26859.
DR PIR; A32857; A32857.
DR HSSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 48
FT PROPEP ? 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 181 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF. 2).
SQ SEQUENCE 181 AA; 20322 MW; 52BAB431875A1A06 CRC64;

Query Match 84.4%; Score 508; DB 1; Length 181;
Best Local Similarity 88.7%; Pred. No. 2.5e-46;
Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
Db 49 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRKKGST 106
Db 109 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRKKGST 154

RESULT 5
IGF1_CAVPO
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ID IGF1_CAVPO STANDARD; PRT; 130 AA.
AC P17647;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 01-FEB-1994 (Rel. 28, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pancreas;
RX MEDLINE=90332447; PubMed=2377480;
RA Bell G. I., Stempien M. M., Fong N. M., Scino S.;
RT "Sequence of a cDNA encoding guinea pig IGF-I.";
RL Nucleic Acids Res. 18:4275-4275(1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; X52951; CAA37127.1; .
DR PIR; S12719; IGGP1.
DR HSSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 25 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 26 95 B.
FT DOMAIN 26 54 C.
FT DOMAIN 55 66 C.
FT DOMAIN 67 87 A.
FT DOMAIN 88 95 D.
FT PROPEP 96 130 E PEPTIDE.
FT DISULFID 31 73 BY SIMILARITY.
FT DISULFID 43 86 BY SIMILARITY.
FT DISULFID 72 77 BY SIMILARITY.
SQ SEQUENCE 130 AA; 14342 MW; 251B20AEDC5729FF CRC64;

Query Match 77.2%; Score 465; DB 1; Length 130;
Best Local Similarity 98.8%; Pred. No. 5.6e-42;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
Db 26 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 85
Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKQ 86
Db 86 CAPLKPAAKARSVRAQRHTDMPKTKQ 111

RESULT 6
IGF1_HUMAN
ID IGF1_HUMAN STANDARD; PRT; 153 AA.
AC P01343;
DT 21-JUL-1986 (Rel. 01, Created)
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DT 13-AUG-1987 (Rel. 05, Last sequence update)
DE 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN IGF1 OR IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RL J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RN SEQUENCE FROM N.A.
RX MEDLINE=84068210; PubMed=6358902;
RA Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RA Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT "Sequence of cDNA encoding human insulin-like growth factor I
RT precursor.";
RL Nature 306:609-611(1983).
RN [3]
RN SEQUENCE FROM N.A.
RX MEDLINE=86108910; PubMed=2935423;
RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sandermeier P.;
RT "Complete characterization of the human IGF-I nucleotide sequence
RT isolated from a newly constructed adult liver cDNA library.";
RL FEBS Lett. 196:108-112(1986).
RN [4]
RN SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
RN [5]
RN SEQUENCE FROM N.A.
RX MEDLINE=91207342; PubMed=2018498;
RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA Sussenbach J.S.;
RT "Complete nucleotide sequence of the high molecular weight human
RT IGF-I mRNA.";
RL Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN [6]
RN SEQUENCE FROM N.A.
RX MEDLINE=92186627; PubMed=1372070;
RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
RT "Characterization of two cDNAs encoding insulin-like growth factor I
RT (IGF-1) in the human fetal brain.";
RL Brain Res. Mol. Brain Res. 12:275-277(1992).
RN [7]
RN SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781(1984).
RN [8]
RN SEQUENCE OF 49-118.
RX MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
RL J. Biol. Chem. 253:2769-2776(1978).
RN [9]
RN 3D-STRUCTURE MODELING.
RX MEDLINE=83210259; PubMed=6189745;

RA Blundell T.L., Bedarkar S., Humbel R.E.;
RT "Tertiary structures, receptor binding, and antigenicity of
RT insulin-like growth factors.";
RL Fed. Proc. 42:2592-2597(1983).
RN [10]
RN STRUCTURE BY NMR.
RX MEDLINE=91242464; PubMed=2036417;
RA Cooke R.M., Harvey T.S., Campbell I.D.;
RT "Solution structure of human insulin-like growth factor 1: a nuclear
RT magnetic resonance and restrained molecular dynamics study.";
RL Biochemistry 30:5484-5491(1991).
RN [11]
RN STRUCTURE BY NMR.
RX MEDLINE=92316903; PubMed=1319992;
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA Yasuda T., Kobayashi Y.;
RT "1H-NMR assignment and secondary structure of human insulin-like
RT growth factor-I (IGF-I) in solution.";
RL J. Biochem. 111:529-536(1992).
RN [12]
RN DISULFIDE BONDS.
RX MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RT (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC -|- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
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CC -|- SUBCELLULAR LOCATION: Secreted.
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CC PRODUCED BY ALTERNATIVE SPLICING.
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; M14156; AAA52538.1; -
DR EMBL; M12659; AAA52538.1; JOINED.
DR EMBL; M14153; AAA52538.1; JOINED.
DR EMBL; M14154; AAA52538.1; JOINED.
DR EMBL; X00173; CAA24998.1; -
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; M27544; AAA52787.1; -
DR EMBL; X03420; CAA27152.1; -
DR EMBL; X03421; CAA27153.1; -
DR EMBL; X03422; CAA27154.1; -
DR EMBL; X57025; CAA40342.1; -
DR EMBL; X56773; CAA40092.1; -
DR PIR; A01610; IGHU1.
DR PIR; A23614; A23614.
DR PIR; A23622; A23622.
DR PIR; S30519; S30519.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MIM; 147440; -
DR MIM; 265850; -
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR PRODOM; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; 3D-structure;
KW Alternative splicing; Signal.
FT SIGNAL 1 21
POTENTIAL.

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FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 153
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT HELIX 56 63
FT TURN 66 68
FT STRAND 78 78
FT TURN 79 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match 77.2%; Score 465; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 6.7e-42;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 60
DB 49 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 108
QY 61 CAPLPAKARSVRAQRHTDMPKTK 86
DB 109 CAPLPAKARSVRAQRHTDMPKTK 134

RESULT 7
IGFLCANFA
ID IGFLCANFA STANDARD; PRT; 122 AA.
AC P33712;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment)
GN IGFI OR IGFIa.
OS Canis familiaris (Dog).
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
CC NCBI_TaxID=9615;
CC [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=93366192; PubMed=8359700;
RA Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL Gene 130:305-306(1993).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
CC
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DR EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR PIR; P06222; P06222.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1. Insulin_IGF_relaxin; 1.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT NON_TER 1
FT SIGNAL <1 19 BY SIMILARITY.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 122 E. PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

Query Match 76.4%; Score 460; DB 1; Length 122;
Best Local Similarity 97.7%; Pred. No. 1.8e-41;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 60
DB 20 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 79
QY 61 CAPLPAKARSVRAQRHTDMPKTK 86
DB 80 CAPLPAKARSVRAQRHTDMPKTK 105

RESULT 8
IGFL_PIG
ID IGFL_PIG STANDARD; PRT; 153 AA.
AC P16545;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
DE IGFI.
GN IGFI.
OS Sus scrofa (Pig).
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
CC NCBI_TaxID=9823;
CC [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=90221822; PubMed=2326169;
RA Mueller M., Brem G.;
RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT untranslated region, exons 1 and 2 and mRNA.";
RL Nucleic Acids Res. 18:364-364(1990).
RN [2]
RN SEQUENCE OF 20-153 FROM N.A.
RX MEDLINE=89096956; PubMed=3211153;
RA Tavakoli A., Simmen F.A., Simmen R.C.M.;
RT "Porcine insulin-like growth factor-I (pIGF-I): complementary
RT deoxyribonucleic acid cloning and uterine expression of messenger
RT ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL Mol. Endocrinol. 2:674-681(1988).
RN [3]
RN SEQUENCE OF 1-21 FROM N.A.
RC STRAIN-WHITE LANDRACE; TISSUE=Liver;
RA MEDLINE=94128209; PubMed=8297476;
RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA Gilmore R.S.;
RT "The porcine insulin-like growth factor-I gene: characterization and
RT expression of alternate transcription sites.";
RL J. Mol. Endocrinol. 11:201-211(1993).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
```

```
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL: X17492; CAA35527.1; -
CC EMBL: X52388; CAA36617.1; -
CC EMBL: X52077; CAA36296.1; -
CC EMBL: M31175; CAA31043.1; ALT_INIT.
CC EMBL: X17638; CAA35632.1; -
CC PIR: A34938; A34938.
CC PIR: S12825; S12825.
CC HSP: P05019; IGF1.
CC InterPro: IPR000739; Insulin_IGF_relaxin.
CC Pfam: PF00049; Insulin; 1.
CC PRINTS: PR00276; INSULINA.
CC PRINTS: PR00277; INSULINB.
CC ProDom: PD001048; Insulin_IGF_relaxin; 1.
CC SMART: SM00078; IIGF; 1.
CC PROSITE: PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Signal.
CC SIGNAL 1 ?
CC PROPEP 1 ?
CC CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
CC DOMAIN 49 77 B.
CC DOMAIN 78 89 C.
CC DOMAIN 90 110 A.
CC DOMAIN 111 118 A.
CC PROPEP 119 153 E PEPTIDE.
CC DISULFID 54 96 BY SIMILARITY.
CC DISULFID 56 109 BY SIMILARITY.
CC DISULFID 95 100 BY SIMILARITY.
CC SEQUENCE 153 AA; 17010 MW; 6098792DCDA0C0D7D CRC64;

Query Match 76.4%; Score 460; DB 1; Length 153;
Best Local Similarity 97.7%; Pred. No. 2.2e-41;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRCDLRRLMY 60
|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
49 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRCDLRRLMY 108

Db 61 CAPLPAKARSVRAQRHTDMPKQK 86
|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
109 CAPLPAKARSVRAQRHTDMPKQK 134

RESULT 9
IGF1_BOVIN STANDARD; PRT; 154 AA.
AC P07455;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE OF 2-154 FROM N.A.
RX MEDLINE=90175014; PubMed=2308858;
Fotals T., Murphy C., Gannon F.;
```

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RT "Nucleotide sequence of the bovine insulin-like growth factor 1
RT (IGF-1) and its IGF-1A precursor.";
RL Nucleic Acids Res. 18:676-676(1990).
RN [2]
RP SEQUENCE OF 50-119 FROM N.A.
RX MEDLINE=95172127; PubMed=7867698;
RA Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT oviduct during the oestrous cycle.";
RL Exp. Clin. Endocrinol. 102:364-369(1994).
RN [3]
RP SEQUENCE OF 50-119.
RX MEDLINE=86085881; PubMed=3941093;
RA Honegger A., Humbel R.E.;
RT "Insulin-like growth factors I and II in fetal and adult bovine
RT serum. Purification, primary structures, and immunological
RT cross-reactivities.";
RL J. Biol. Chem. 261:569-575(1986).
RN [4]
RP SEQUENCE OF 50-119.
RX MEDLINE=88268820; PubMed=3390164;
RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT and biological activities compared with those of a potent truncated
RT form.";
RL Biochem. J. 251:95-103(1988).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL: X15726; CAA33746.1; -
CC EMBL: S76122; AAD14209.1; -
CC PIR: A25623; IGB01
CC PIR: S00465; S00465.
CC PIR: S12672; S12672.
CC HSP: P05019; IGF1.
CC InterPro: IPR000739; Insulin_IGF_relaxin.
CC Pfam: PF00049; Insulin; 1.
CC PRINTS: PR00276; INSULINA.
CC PRINTS: PR00277; INSULINB.
CC ProDom: PD001048; Insulin_IGF_relaxin; 1.
CC SMART: SM00078; IIGF; 1.
CC PROSITE: PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Signal.
CC SIGNAL 1 ?
CC PROPEP 1 ?
CC CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
CC DOMAIN 50 78 B.
CC DOMAIN 79 90 C.
CC DOMAIN 91 111 A.
CC DOMAIN 112 119 D.
CC PROPEP 120 154 E PEPTIDE.
CC DISULFID 55 97 BY SIMILARITY.
CC DISULFID 67 110 BY SIMILARITY.
CC DISULFID 96 101 BY SIMILARITY.
CC SEQUENCE 154 AA; 17066 MW; 6420186AF3140999 CRC64;

Query Match 76.4%; Score 460; DB 1; Length 154;
Best Local Similarity 97.7%; Pred. No. 2.2e-41;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRCDLRRLMY 60
|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:
1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRCDLRRLMY 60
```



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RT adult sheep serum."
RL Biochim. Biophys. Acta 997:27-35(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A, B (SHOWN HERE) AND C; ARE
CC PRODUCED BY ALTERNATIVE SPLICING
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
EMBL; M30653; AAA80532.1; -
EMBL; M30653; AAA80533.1; -
EMBL; M31734; AAA80535.1; -
EMBL; M31734; AAA80536.1; -
EMBL; M31734; AAA80537.1; -
EMBL; M31736; AAA31545.1; -
EMBL; M31735; AAA31546.1; -
EMBL; M31735; AAA31547.1; -
EMBL; M31735; AAA31548.1; -
EMBL; M69472; CAA49230.1; JOINED.
EMBL; M69473; CAA49230.1; JOINED.
EMBL; M69474; CAA49230.1; JOINED.
EMBL; M69475; CAA49230.1; JOINED.
EMBL; M69472; CAA49231.1; JOINED.
EMBL; M69473; CAA49231.1; JOINED.
EMBL; M69474; CAA49231.1; JOINED.
EMBL; M69475; CAA49231.1; JOINED.
EMBL; M69473; CAA49232.1; JOINED.
EMBL; M69474; CAA49232.1; JOINED.
EMBL; M69475; CAA49232.1; JOINED.
EMBL; M89787; AAA31544.1; -
DR PIR; A33390; A33390.
DR PIR; B33390; B33390.
DR PIR; S07198; S07198.
DR PIR; S07965; S07965.
DR HSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
DR SIGNAL 1 ?
DR PROPEP ? 49
DR CHAIN 50 119
DR DOMAIN 50 78
DR DOMAIN 79 90
DR DOMAIN 91 111
DR DOMAIN 112 119
DR PROPEP 120 154
DR PROPEP 120 154
DR DISULFID 55 97
DR DISULFID 67 110
DR DISULFID 96 101
DR VARSPPLIC 1 21
DR VARSPPLIC 1 34
DR VARSPPLIC 57 57
DR CONFLICT 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;
DR SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;

Query Match 75.1%; Score 452; DB 1; Length 154;
Best Local Similarity 96.5%; Pred. No. 1.5e-40;
Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||

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Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 109
OY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86
|||||
Db 110 CAPLKPAAKARSVRAQRHTDMPKAK 135

RESULT 12
IGFA_MOUSE STANDARD; PRT; 127 AA.
AC P05017;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGF1 OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID-10090;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
growth factor I precursors.";
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE)
CC AND ISOFORM IGF-IB (AC P05018); ARE PRODUCED BY ALTERNATIVE
CC SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
EMBL; X04480; CAA28168.1; -
DR PIR; A25540; A25540.
DR HSP; P05019; IGF1.
DR MGD; MGI:96432; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
DR SIGNAL 1 22
DR CHAIN 23 92
DR DOMAIN 23 51
DR DOMAIN 52 63
DR DOMAIN 64 84
DR DOMAIN 85 92
DR DOMAIN 93 127
DR PROPEP 28 70
DR DISULFID 28 70
DR DISULFID 40 83
DR DISULFID 69 74
DR SEQUENCE 127 AA; 14120 MW; 1054B8CAC72DC2D7 CRC64;

Query Match 74.8%; Score 450; DB 1; Length 127;
Best Local Similarity 95.3%; Pred. No. 2e-40;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 109
|||||

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QY 1 GPTLCGAEVLVDALQVCGDGRGFFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
 Db 23 GPTLCGAEVLVDALQVCGDGRGFFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 82
 QY 61 CAPLKPAKAARSVRAQRHTDMPKTK 86
 Db 83 CAPLKPAKAARSVRAQRHTDMPKTK 108

RESULT 13
 IGFA_RAT
 ID IGFA_RAT STANDARD; PRT; 153 AA.
 AC P08025;
 DT 01-AUG-1988 (Rel. 08, Created)
 DT 01-FEB-1991 (Rel. 17, Last sequence update)
 DE 30-MAY-2000 (Rel. 39, Last annotation update)
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
 GN IGF1 OR IGF-1.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;
 [1]
 SEQUENCE FROM N.A.
 RX MEDLINE=8722423; PubMed=3034909;
 RA Shimatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors. Organization,
 RT sequence, and expression of the rat insulin-like growth factor I
 RT gene.";
 RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 SEQUENCE FROM N.A.
 RC TISSUE-Testis;
 RX MEDLINE=88003970; PubMed=3652906;
 RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
 RA Hoyt E.C., Lund P.K.;
 RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
 RT I precursor.";
 RL DNA 6:325-330(1987).
 RN [3]
 SEQUENCE FROM N.A.
 RX MEDLINE=91103966; PubMed=1368571;
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;
 RT "A new cDNA clone relating to larger molecular species of rat
 RT insulin-like growth factor-I mRNA.";
 RL Agric. Biol. Chem. 54:1599-1601(1990).
 RN [4]
 SEQUENCE FROM N.A.
 RX MEDLINE=89127259; PubMed=3221878;
 RA Roberts C.F., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
 RT "Structure of the rat insulin-like growth factor II transcriptional
 RT unit: heterogeneous transcripts are generated from two promoters by
 RT use of multiple polyadenylation sites and differential ribonucleic
 RT acid splicing.";
 RL Mol. Endocrinol. 2:1115-1126(1988).
 RN [5]
 SEQUENCE OF 46-153 FROM N.A.
 RX MEDLINE=87246437; PubMed=3595538;
 RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
 RT "Identification, characterization, and regulation of a rat
 RT complementary deoxyribonucleic acid which encodes insulin-like growth
 RT factor-I.";
 RL Endocrinology 121:684-691(1987).
 RN [6]
 SEQUENCE OF 49-118.
 RX MEDLINE=89174609; PubMed=2538424;
 RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
 RA Nakamura S., Niwa M., Zapf J.;
 RT "Primary structure of rat insulin-like growth factor-I and its
 RT biological activities.";
 RL J. Biol. Chem. 264:5616-5621(1989).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE) AND
 CC ISOFORM IGF-IB (AC P08024); ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 CC EMBL; X06043; CAA29436.1; -
 CC EMBL; M15651; AAA41215.1; -
 CC EMBL; M15647; AAA41215.1; JOINED.
 CC EMBL; M15648; AAA41215.1; JOINED.
 CC EMBL; M15649; AAA41215.1; JOINED.
 CC EMBL; M17714; AAA41227.1; -
 CC EMBL; M17335; AAA41386.1; ALT_INIT.
 CC EMBL; M15481; AAA41387.1; ALT_INIT.
 CC PIR; A27849; A27849.
 CC PIR; JH0133; JH0133.
 CC PIR; B27804; B27804.
 CC PIR; A32857; A32857.
 CC PIR; A28504; A28504.
 CC HSSP; P05019; IGF1.
 CC InterPro: IPR000739; Insulin_IGF_relaxin.
 CC Pfam: PF00049; Insulin; 1.
 CC PRINTS; PR00276; INSULINA.
 CC PRINTS; PR00277; INSULINB.
 CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
 CC SMART; SM00078; IIGF; 1.
 CC PROSITE; PS00262; INSULIN; 1.
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
 FT SIGNAL 1 ?
 FT PROPEP 48
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 153 E PEPTIDE.
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT CONFLICT 110 112 APL->VRC (IN REF. 4).
 SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;
 Query Match 74.3%; Score 447; DB 1; Length 153;
 Best Local Similarity 94.2%; Pred. No. 5,1e-40;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVDALQVCGDGRGFFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
 Db 49 GPTLCGAEVLVDALQVCGDGRGFFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 108
 QY 61 CAPLKPAKAARSVRAQRHTDMPKTK 86
 Db 109 CAPLKPAKAARSVRAQRHTDMPKTK 134

RESULT 14
 IGFL_COTJA
 ID IGFL_COTJA STANDARD; PRT; 124 AA.
 AC P51462;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 16-OCT-2001 (Rel. 40, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
 DE (Fragment).
 GN IGFI.

OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Coturnix.
OX NCBI_TaxID=93934;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95187621; PubMed=7881819;
RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA Noguchi T.;
RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT Japanese quail (Coturnix coturnix japonica): changes during growth
RT and development or after estrogen administration.";
RL Comp. Biochem. Physiol. 109C:191-204 (1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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CC
CC EMBL; S75247; -; NOT_ANNOTATED_CDS.
CC HSP; P05019; IGF1.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; IIGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma.
FT NON_TER 1
FT PROPEP <1 19 POTENTIAL.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 124 E PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
FT SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;
Query Match 69.6%; Score 419; DB 1; Length 124;
Best Local Similarity 88.4%; Pred. No. 3.5e-37;
Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLMY 60
Db 20 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRRLHHKGIIVDECCFQSCDLRLRLMY 79
QY 61 CAPLPKPAKARSVRAQRHTDMPKTK 86
Db 80 CAPIPKPKSARSVRAQRHTDMPKAK 105
RESULT 15
IGF1_CHICK STANDARD; PRT; 153 AA.
AC P18254;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190648; PubMed=2628728;
RA Kajimoto Y., Rotwein P.;
RT "Structure and expression of a chicken insulin-like growth factor I
RT precursor.";
RL Mol. Endocrinol. 3:1907-1913 (1989).
RN [2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE=91236750; PubMed=2033062;
RA Rotwein P., Kajimoto Y.;
RT "Structure of the chicken insulin-like growth factor I gene reveals
RT conserved promoter elements.";
RL J. Biol. Chem. 266:9724-9731 (1991).
RN [3]
RP SEQUENCE OF 49-118
RX MEDLINE=91106695; PubMed=2272467;
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA McMurtry J.P., Wallace J.C.;
RT "Chicken insulin-like growth factor-I: amino acid sequence,
RT radioimmunoassay, and plasma levels between strains and during
RT growth.";
RL Gen. Comp. Endocrinol. 79:459-468 (1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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CC
CC EMBL; M32791; AAA48828.1; -;
CC EMBL; M74176; AAA48829.1; -;
CC PIR; A41399; A41399.
CC HSP; P05019; IGF1.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULINA.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; IIGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP ? 48 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 49 118 B.
FT DOMAIN 49 77 C.
FT DOMAIN 78 89 A.
FT DOMAIN 90 110 D.
FT DOMAIN 111 118 E.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT SEQUENCE 153 AA; 17267 MW; AAE13FDED13EE2F8 CRC64;
Query Match 69.6%; Score 419; DB 1; Length 153;
Best Local Similarity 88.4%; Pred. No. 4.4e-37;
Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLMY 60
Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRRLHHKGIIVDECCFQSCDLRLRLMY 108

QY 61 CAPLKPAKARSYRAORHTDMPKTQK 86
| | | | | : | | | | | | | | | | |
Db 109 CAPIKPPKSARSYRAORHTDMPKAQK 134

Search completed: October 25, 2002, 15:57:35
Job time : 6.68675 secs

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OM protein - protein search, using sw model

Run On: October 25, 2002, 15:53:12 ; Search time 20.7289 Seconds
(without alignments)
926.360 Million cell updates/sec

Title: US-09-852-261-6

Perfect score: 602

Sequence: 1 GPETLCAELVDALQFVCGD.....TNKKMKSORRKSGSTFEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

ched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL_l9:*

- 1: sp_archaea:*
- 2: sp_bacteria:*
- 3: sp_fungi:*
- 4: sp_human:*
- 5: sp_invertebrate:*
- 6: sp_mammal:*
- 7: sp_mhc:*
- 8: sp_organelle:*
- 9: sp_phase:*
- 10: sp_plant:*
- 11: sp_rodent:*
- 12: sp_virus:*
- 13: sp_vertebrate:*
- 14: sp_unclassified:*
- 15: sp_virus:*
- 16: sp_bacteriap:*
- 17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	564.5	93.8	139	4 Q13429	Q13429 homo sapien
2	465	77.2	130	4 Q9NP10	Q9np10 homo sapien
3	465	77.2	137	4 Q14620	Q14620 homo sapien
4	462	76.7	139	6 P79167	P79167 equus caball
5	460	76.4	133	6 Q9N1C1	Q9n1c1 bos taurus
6	447	74.3	127	11 P97899	P97899 rattus sp.
7	419	69.6	153	13 Q93380	Q93380 meleagris g
8	404	67.1	161	13 Q91230	Q91230 oncorhynch
9	403	66.9	178	13 Q9IB10	Q9ib10 cyprinus ca
10	402	66.8	145	13 Q91475	Q91475 salmo salar
11	402	66.8	155	13 Q91162	Q91162 oncorhynch
12	402	66.8	188	13 Q91365	Q91365 oncorhynch
13	402	66.8	188	13 P81268	P81268 oncorhynch
14	398	66.1	149	13 Q91231	Q91231 oncorhynch
15	396	65.8	116	13 Q91161	Q91161 oncorhynch
16	395	65.6	117	13 Q91476	Q91476 salmo salar

17	388	64.5	161	13	Q90VV9	Q90vv9 brachydanio
18	384.5	63.9	186	13	Q93527	Q93527 paralichthy
19	384	63.8	159	13	Q93527	Q93527 paralichthy
20	383	63.6	161	13	Q9PWK2	Q9pwk2 carassius a
21	380	63.1	117	13	Q91914	Q91914 ctenopharyn
22	380	63.1	161	13	Q9Y182	Q9y182 carassius a
23	379	63.0	161	13	Q98SR6	Q98sr6 megalobrama
24	377.5	62.7	186	13	Q9PSK5	Q9psk5 paralichthy
25	377	62.6	182	13	P79824	P79824 oreochromis
26	377	62.6	182	13	Q73720	Q73720 oreochromis
27	376.5	62.5	182	13	O42289	O42289 oreochromis
28	376.5	62.5	185	13	O57436	O57436 paralichthy
29	363	60.3	185	13	Q9Y157	Q9y157 acanthopagr
30	358	59.5	66	6	Q9N1S6	Q9n1s6 capreolus c
31	354.5	58.9	184	13	O42336	O42336 myoxocephal
32	336.5	55.9	69	6	O02807	O02807 bubalus bub
33	305	50.7	57	6	Q28236	Q28236 cervus elap
34	301.5	50.1	126	13	Q91442	Q91442 squalus aca
35	278	46.2	62	13	Q9IAA0	Q9iaa0 carassius a
36	271.5	45.1	215	13	O73721	O73721 tilapia sp.
37	268.5	44.6	215	13	O42429	O42429 lates calca
38	261	43.4	207	13	Q90XD0	Q90xd0 cyprinus ca
39	254.5	42.3	187	13	O57687	O57687 taenopygia
40	246.5	40.9	187	13	P79890	P79890 gallus gall
41	239.5	39.8	217	13	Q90WW4	Q90ww4 xenopus lae
42	239	39.7	197	13	Q9PUD0	Q9pu40 brachydanio
43	231	38.4	149	6	Q9MYX4	Q9myx4 bos indicus
44	230.5	38.3	154	11	O63265	O63265 rattus norv
45	227.5	37.8	215	13	O73722	O73722 oreochromis

ALIGNMENTS

RESULT 1

Q13429 ID Q13429 PRELIMINARY; PRT; 139 AA.
AC Q13429
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I (FRAGMENT).
GN IGF-I.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=95237119; PubMed=7720641;
RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT "An alternatively spliced human insulin-like growth factor-I
transcript with hepatic tissue expression that diverts away from the
mitogenic IBI peptide."
RT Endocrinology 136:1939-1944(1995).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U04870; AAA96152.1; -.
DR HSSP; P01343; 1GF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF000049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM000078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 93.8%; Score 564.5; DB 4; Length 139;

Best Local Similarity 95.5%; Pred. No. 4e-61; 3; Indels 1; Gaps 1;

Matches 106; Conservative 1; Mismatches 1; Gaps 1;

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QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
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Db 30 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 89
|||||
QY 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMKSORRRKSGTFEEHK 111
|||||
Db 90 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKTKSQ-RRKSGTFEEERK 139
|||||

RESULT 2
QNP10 PRELIMINARY; PRT; 130 AA.
AC QNP10;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE IGF1 PROTEIN PRECURSOR.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88065102; PubMed=3683205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: Isolation of
complementary DNA and analysis of expression.";
RL Meth. Enzymol. 146:239-248(1987).
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M29644; AAA52543.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00276; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL. 1 25 POTENTIAL.
FT CHAIN 26 95 POTENTIAL.
SQ SEQUENCE 130 AA; 14406 MW; 970FBAACFA0352D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 130;
Best Local Similarity 98.8%; Pred. No. 5,2e-49;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 26 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 85
|||||
QY 61 CAPLPAKAAARSVRAQRHTDMPKTKQ 86
|||||
Db 86 CAPLPAKAAARSVRAQRHTDMPKTKQ 111
|||||

RESULT 3
Q14620 PRELIMINARY; PRT; 137 AA.
AC Q14620;
DT 01-NOV-1996 (Tremblrel. 01, Created)
DT 01-NOV-1996 (Tremblrel. 01, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
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RX MEDLINE=91187000; PubMed=2082190;
RA Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
in normal and tumor cells.";
RL Mol. Endocrinol. 4:1914-1920(1990).
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M37484; AAA52789.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL. 1 32 POTENTIAL.
FT CHAIN 33 137 INSULIN-LIKE GROWTH FACTOR I.
SQ SEQUENCE 137 AA; 15177 MW; BFCC0D11E32AB75D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 137;
Best Local Similarity 98.8%; Pred. No. 5.5e-49;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 33 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 92
|||||
QY 61 CAPLPAKAAARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLPAKAAARSVRAQRHTDMPKTKQ 118
|||||

RESULT 4
P79167 PRELIMINARY; PRT; 139 AA.
AC P79167;
DT 01-MAY-1997 (Tremblrel. 03, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR IB PRECURSOR (IGF-IB) (SOMATOMEDIN C)
DE (FRAGMENTS).
GN IGF1.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
NCBI_TaxID=9796;
[1]
RN SEQUENCE OF 1-122 FROM N.A.
RP SEQUENCE OF 1-122 FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=97013467; PubMed=8860303;
RA Otte K., Rozell B., Gessbo A., Engstrom W.;
RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA
and its expression in fetal and adult tissues.";
RL Gen. Comp. Endocrinol. 102:11-15(1996).
[2]
RN SEQUENCE OF 123-139 FROM N.A.
RA Nixon A.J., Toland B.D., Sandell L.J.;
RA Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -|- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -|- SUBCELLULAR LOCATION: SECRETED.
CC -|- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND
ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING
(BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U28070; AAA68952.1; -.
DR EMBL; U85271; AAB47484.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
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DR PRINTS: PR00276; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; UNKNOWN_1.
 KW Insulin family; Growth factor; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48 BY SIMILARITY.
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 >139 E PEPTIDE.
 FT NON_CONS 122 123
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT NON_TER 139 139
 SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;
 Query Match 76.7%; Score 462; DB 6; Length 139;
 Best Local Similarity 85.4%; Pred. No. 1.3e-48;
 Matches 88; Conservative 1; Mismatches 2; Indels 12; Gaps 1;
 QY 1 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
 DB 49 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 108
 QY 61 CAPLPAKAAARSVRAQRHTDMPKTK 103
 DB 109 CAPLPAKAAARSVRAQRHTDMPKTK 139
 RESULT 5
 QN01C1
 ID QN01C1 PRELIMINARY; PRT; 133 AA.
 AC QN01C1
 DT 01-OCT-2000 (TREMBlrel. 15, Created)
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
 DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
 DE INSULIN-LIKE GROWTH FACTOR I (FRAGMENT).
 GN IGF1.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 Bovidae; Bovinae; Bos.
 NCBI_TaxID=9913;
 [1]
 RP SEQUENCE FROM N.A.
 RA Lien S., Karlsson A., Klemetsdal G., Vage D.I., Olsaker I.,
 RA Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
 RT "A primary screen of the bovine genome for quantitative trait loci
 RT affecting twinning rate."
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; AF210387; AAF72409.1; JOINED.
 DR EMBL; AF210385; AAF72409.1; JOINED.
 DR EMBL; AF210386; AAF72409.1; JOINED.
 DR HSP; P01343; IGF1.
 DR InterPro; IPR000739; Insulin_IGF_relaxin.
 DR PRINTS; PR00276; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR NON_TER 133 AA; 14674 MW; A6991DBC75C103B CRC64;
 Query Match 76.4%; Score 460; DB 6; Length 133;
 Best Local Similarity 97.7%; Pred. No. 2.2e-48;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
 DB 29 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 88
 QY 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
 DB 89 CAPLPAKAAARSVRAQRHTDMPKTK 114
 RESULT 6
 P97899
 ID P97899 PRELIMINARY; PRT; 127 AA.
 AC P97899
 DT 01-MAY-1997 (TREMBlrel. 03, Created)
 DT 01-MAY-1997 (TREMBlrel. 03, Last sequence update)
 DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
 DE INSULIN-LIKE GROWTH FACTOR I.
 OS Rattus sp.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 NCBI_TaxID=10118;
 [1]
 RN PARTIAL SEQUENCE FROM N.A.
 RX MEDLINE=87222423; PubMed=3034909;
 RA Shinatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors."
 RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91103966; PubMed=1368571;
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;
 RT "A new cDNA clone relating to larger molecular species of rat insulin-
 RT like growth factor-I mRNA."
 RL Agric. Biol. Chem. 54:1599-1601(1990).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; D00698; BAA00604.1; -
 DR HSP; P01343; IGF1.
 DR InterPro; IPR000739; Insulin_IGF_relaxin.
 DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00276; INSULIN.
 DR PRINTS; PR00277; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 FT CHAIN 23 92 POTENTIAL.
 SQ SEQUENCE 127 AA; 14106 MW; 104E126BCFCA5CB7 CRC64;
 Query Match 74.3%; Score 447; DB 11; Length 127;
 Best Local Similarity 94.2%; Pred. No. 7.9e-47;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 QY 1 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
 DB 23 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 82
 QY 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
 DB 83 CAPLPAKAAARSVRAQRHTDMPKTK 108
 RESULT 7
 O93380
 ID O93380 PRELIMINARY; PRT; 153 AA.
 AC O93380
 DT 01-NOV-1998 (TREMBlrel. 08, Created)
 DT 01-NOV-1998 (TREMBlrel. 08, Last sequence update)
 DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
 DE INSULIN-LIKE GROWTH FACTOR-I PRECURSOR.
 GN IGF1.
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria: Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
OX NCBI_TaxID=9103;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG 6 ML TOM; TISSUE=LIVER;
RA Czerwinski S.M., Ashwell C.M., McMurtry J.P.:
RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: AF074980; AAC26006.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR-I.
FT SEQUENCE 153 AA; 17295 MW; 5AF1E5B8D13C70B5 CRC64;
Query Match 69.6%; Score 419; DB 13; Length 153;
Best Local Similarity 88.4%; Pred. No. 2.6e-43;
Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
DB 49 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLKPAKAAARSVRAQRHTDMPKTKQ 86
DB 109 CAPIKPKSAARSVRAQRHTDMPKAOK 134
RESULT 8
Q91230
ID Q91230 PRELIMINARY; PRT; 161 AA.
AC Q91230;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15961; AAB67267.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.

DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;
Query Match 67.1%; Score 404; DB 13; Length 161;
Best Local Similarity 69.4%; Pred. No. 1.9e-41;
Matches 77; Conservative 13; Mismatches 15; Indels 6; Gaps 2;
QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
DB 45 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 104
QY 61 CAPLKPAKAAARSVRAQRHTDMPKTKQYQPPSTN-----KKMKSQRRKRGST 106
DB 105 CAPVKSGAARSVRAQRHTDMPKTPK-KPLSGNSHTSCKEVHOKNSRGNT 154
RESULT 9
Q91B10
ID Q91B10 PRELIMINARY; PRT; 178 AA.
AC Q91B10;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I SUBTYPE EA2.
GN IGF-IEA2.
OS Cyprinus carpio (Common carp).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Ostariophysi;
OC Cypriniformes; Cyprinidae; Cyprinus.
OX NCBI_TaxID=7962;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=96241923; PubMed=8680527;
RA Liang Y.H., Cheng C.H., Chan K.M.;
RT "Insulin-like growth factor IEA2 is the predominantly expressed form
of IGF in common carp (Cyprinus carpio).";
RL Mol. Mar. Biol. Biotechnol. 5:145-152(1996).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: S82374; AAB37702.2; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 178 AA; 19687 MW; 7075A34FF379C459 CRC64;
Query Match 66.9%; Score 403; DB 13; Length 178;
Best Local Similarity 68.2%; Pred. No. 2.8e-41;
Matches 75; Conservative 12; Mismatches 13; Indels 4; Gaps 1;
QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
DB 62 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 121
QY 61 CAPLKPAKAAARSVRAQRHTDMPKTKQYQPP-----STNKKMSQRRKRGST 106
DB 122 CAPVKGKTPRSVRAQRHTDMPKTKAPLPGQSHSSYKEVHOKNSRGNT 171
RESULT 10
Q91475
ID Q91475 PRELIMINARY; PRT; 145 AA.
AC Q91475;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Salmo salar (Atlantic salmon).

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CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81913; AAA49413.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1
FT SIGNAL <1 18
FT CHAIN 19 >88
FT CONFLICT 73 73
FT NON_TER 155 155
SQ SEQUENCE 155 AA; 16968 MW; 022FD3CA39CA3160 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 155;
Best Local Similarity 73.3%; Pred. No. 3.1e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps

QY 1 GPTICGAEIYDALQFVCGDRGCFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLLEY 60
DB 19 GPTICGAEIYDVLQFVCGERGFYFSKPTGYGSSSRHNRGIVDECCFQSCELRLLEY 78
QY 61 CAPLPAKAARSVRAQRHTDMPKTKQYPPSTNKKMKRSQR 101
DB 79 CAPVSGKAARSVRAQRHTDMPRTPKYSTAVQNVDRGTERR 119

RESULT 12
QY1965:
ID QY1965 PRELIMINARY; PRT; 188 AA.
AC QY1965;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Procatanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC MEDLINE=93247592; PubMed=7683374;
RX Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RN Mol. Endocrinol. 7:409-422(1993).
RL [2]
RN SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC Devlin R.H.;
RA Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
RL [3]
RN SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC Devlin R.H.;
RA Submitted (SEP-1994) to the EMBL/GenBank/DBJ databases.
RL
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARIY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15960; AAA67266.1; -.
DR EMBL; U14536; AAA67263.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin IGF relaxin; 1.

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DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;
Best Local Similarity 73.3%; Pred. No. 3.9e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DQ 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLRY 104

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DQ 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPKTPKISTAVQNVDRGTERR 145

RESULT 13
P81268 PRELIMINARY; PRT; 188 AA.
AC P81268;
DT 01-AUG-1998 (TREMELrel. 07, Created)
DT 01-AUG-1998 (TREMELrel. 07, Last sequence update)
DT 01-DEC-2001 (TREMELrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I.1 PRECURSOR (IGF-I.1) (SOMATOMEDIN).
GN IGF-I.1.
OS Oncorhynchus keta (Chum salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8018;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94296559; PubMed=8024699;
RA Kavan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA Roberts C.T. Jr., Lerioth D.;
RT "Isolation of a second nonallelic insulin-like growth factor I gene
RT from the salmon genome.";
RL DNA Cell Biol. 13:555-559(1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SURCELLULAR LOCATION: SECRETED.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: AF063216; AAC18833.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Multigene family; Signal.
FT SIGNAL 1 44
FT PROPEP ? 44 BY SIMILARITY.
FT CHAIN 45 114 INSULIN-LIKE GROWTH FACTOR I.1.
FT DOMAIN 45 73 B.
FT DOMAIN 74 85 C.
FT DOMAIN 86 106 A.
FT DOMAIN 107 114 D.
FT PROPEP 115 188 E. PEPTIDE.
FT DISULFID 50 92 BY SIMILARITY.
FT DISULFID 62 105 BY SIMILARITY.
FT DISULFID 91 96 BY SIMILARITY.
SQ SEQUENCE 188 AA; 20792 MW; FACEB6D05E0F24B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;
Best Local Similarity 73.3%; Pred. No. 3.9e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DQ 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLRY 104

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DQ 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPKTPKISTAVQNVDRGTERR 145

RESULT 14
Q91231 PRELIMINARY; PRT; 149 AA.
AC Q91231;
DT 01-NOV-1996 (TREMELrel. 01, Created)
DT 01-NOV-1996 (TREMELrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMELrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SURCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15962; AAA67268.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 149 AA; 16507 MW; 9AC8F072762D2AA0 CRC64;

Query Match 66.1%; Score 398; DB 13; Length 149;
Best Local Similarity 69.2%; Pred. No. 9.2e-41;
Matches 74; Conservative 11; Mismatches 18; Indels 4; Gaps 1;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DQ 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLRY 104

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 107
DQ 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 107
DB 105 CAPVSKGAARSVRAQRHTDMPKTPKISTAVQNVDRGTERR 147

RESULT 15
Q91161 PRELIMINARY; PRT; 116 AA.
AC Q91161;
DT 01-NOV-1996 (TREMELrel. 01, Created)
DT 01-NOV-1996 (TREMELrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMELrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8019;
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DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;
Best Local Similarity 73.3%; Pred. No. 3.9e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DQ 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLRY 104

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DQ 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPKTPKISTAVQNVDRGTERR 145

RESULT 13
P81268 PRELIMINARY; PRT; 188 AA.
AC P81268;
DT 01-AUG-1998 (TREMELrel. 07, Created)
DT 01-AUG-1998 (TREMELrel. 07, Last sequence update)
DT 01-DEC-2001 (TREMELrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I.1 PRECURSOR (IGF-I.1) (SOMATOMEDIN).
GN IGF-I.1.
OS Oncorhynchus keta (Chum salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8018;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94296559; PubMed=8024699;
RA Kavan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA Roberts C.T. Jr., Lerioth D.;
RT "Isolation of a second nonallelic insulin-like growth factor I gene
RT from the salmon genome.";
RL DNA Cell Biol. 13:555-559(1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SURCELLULAR LOCATION: SECRETED.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: AF063216; AAC18833.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Multigene family; Signal.
FT SIGNAL 1 44
FT PROPEP ? 44 BY SIMILARITY.
FT CHAIN 45 114 INSULIN-LIKE GROWTH FACTOR I.1.
FT DOMAIN 45 73 B.
FT DOMAIN 74 85 C.
FT DOMAIN 86 106 A.
FT DOMAIN 107 114 D.
FT PROPEP 115 188 E. PEPTIDE.
FT DISULFID 50 92 BY SIMILARITY.
FT DISULFID 62 105 BY SIMILARITY.
FT DISULFID 91 96 BY SIMILARITY.
SQ SEQUENCE 188 AA; 20792 MW; FACEB6D05E0F24B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;
Best Local Similarity 73.3%; Pred. No. 3.9e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DQ 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLRY 104

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DQ 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPKTPKISTAVQNVDRGTERR 145

RESULT 14
Q91231 PRELIMINARY; PRT; 149 AA.
AC Q91231;
DT 01-NOV-1996 (TREMELrel. 01, Created)
DT 01-NOV-1996 (TREMELrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMELrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SURCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15962; AAA67268.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 149 AA; 16507 MW; 9AC8F072762D2AA0 CRC64;

Query Match 66.1%; Score 398; DB 13; Length 149;
Best Local Similarity 69.2%; Pred. No. 9.2e-41;
Matches 74; Conservative 11; Mismatches 18; Indels 4; Gaps 1;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DQ 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCDLRLRLRY 104

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 107
DQ 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKMSORR 107
DB 105 CAPVSKGAARSVRAQRHTDMPKTPKISTAVQNVDRGTERR 147

RESULT 15
Q91161 PRELIMINARY; PRT; 116 AA.
AC Q91161;
DT 01-NOV-1996 (TREMELrel. 01, Created)
DT 01-NOV-1996 (TREMELrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMELrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8019;
```



```
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=90190659; PubMed=2628735;
RA Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT "Nucleotide sequence and growth hormone regulated expression of salmon
FT insulin-like growth factor I mRNA.";
RL Mol. Endocrinol. 3:2005-2010(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
FT growth factor I prohormones in salmon.";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
EMBL; M81911; AB59947.1; -.
HSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1 1
FT SIGNAL <1 18 POTENTIAL.
FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
FT NON_TER 116 116
FT SEQUENCE 116 AA; 12697 MW; C5F378915179D89D CRC64;
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Query Match 65.8%; Score 396; DB 13; Length 116;
Best Local Similarity 70.8%; Pred No. 1.2e-40;
Matches 75; Conservative 11; Mismatches 12; Indels 8; Gaps 2;

QY 1 GPETLCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60
Db 19 GPETLCGAEIVDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCGLRLRLMY 78
QY 61 CAPLPAKAARSVRAQRHTDMEKTKYQPPSTNKKMKSORRRKGST 106
Db 79 CAPVKSQKAARSVRAQRHTDMPRT----PKEVHQKNS-----RGNT 116
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Search completed: October 25, 2002, 15:58:45
Job time : 20.7289 secs

Result No.	Query			DB	ID	Description
	Score	Match	Length			
1	539	89.5	195	2	A26859	insulin-like growth
2	536	89.0	159	1	IGHU1B	insulin-like growth
3	521	86.5	133	2	A40912	insulin-like growth
4	508	84.4	181	2	A27804	insulin-like growth
5	465	77.2	137	1	IGGP1	insulin-like growth
6	465	77.2	137	2	A36552	insulin-like growth
7	465	77.2	153	1	IGHU1	insulin-like growth
8	460	76.4	122	2	PN0622	insulin-like growth
9	460	76.4	153	1	IGBO1	insulin-like growth
10	460	76.4	153	2	S12825	insulin-like growth
11	456	75.7	154	2	JC2483	insulin-like growth
12	452	75.1	138	2	S22878	insulin-like growth
13	452	75.1	154	2	A33390	insulin-like growth
14	450	74.8	127	2	A25540	insulin-like growth
15	447	74.3	153	2	B27804	insulin-like growth
16	429	71.3	127	2	B40912	insulin-like growth
17	419	69.6	153	2	A41399	insulin-like growth
18	412.5	68.5	153	2	A36079	insulin-like growth
19	404	67.1	161	2	C54270	insulin-like growth
20	402	66.8	155	2	C44012	insulin-like growth
21	402	66.8	176	2	A41396	insulin-like growth
22	402	66.8	188	2	A54270	insulin-like growth
23	402	66.8	188	2	B54270	insulin-like growth
24	398	66.1	149	2	D54270	insulin-like growth
25	398	66.1	176	2	A46244	insulin-like growth
26	301.5	50.1	126	2	S66485	insulin-like growth
27	298	49.5	193	2	A53697	insulin-like growth
28	272	45.2	214	2	B46244	insulin-like growth
29	246.5	40.9	187	2	T10897	insulin-like growth

IGHULB
insulin-like growth factor I precursor, splice form B [validated] - human
N:Alternate names: IGF-IB; somatomedin C
N:Contains: insulin-like growth factor IB-EI amide
C:Species: Homo sapiens (man)
C:Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A01611; A26181; S30540; B48960; A42664
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. A1
A:Reference number: A92581; MUID:86168194
A:Accession: A01611
A:Molecule type: DNA
A:Residues: 1-195 <ROT1>
A:Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
B:Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986.
A:Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver
A:Reference number: A26181; MUID:86094355
A:Accession: A26181
A:Molecule type: mRNA

A:Residues: 1-195 <ROT>
A:Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R:Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-1b.
A:Reference number: S30540
A:Accession: S30540
A:Molecule type: mRNA
A:Residues: 1-195 <SAN>
A:Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A:Reference number: A48960; MUID:93365440
A:Accession: B48960
A:Molecule type: mRNA
A:Residues: 1-195 <SA2>
A:Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence modified after extraction from NCBI backbone
A:Note: the authors translated the codon CAG for residues 124 and 133 as Glu
A:Note: sequence extracted from NCBI backbone (NCBIN:133058)
Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta,
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A:Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-like
growth factor I precursor form, see PIR:IGHUL.
A:Reference number: A42664; MUID:92390398
A:Contents: annotation; IBE-1; amidated carboxyl end
C:Comment: For an alternative splice form, see PIR:IGHUL.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status predicted <MAT>
F:49-77/Domain: insulin chain B-like #status predicted <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:90-110/Domain: insulin chain A-like #status predicted <CHA>
F:111-118/Domain: D peptide #status predicted <CHD>
F:119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:151-172/Product: insulin-like growth factor IB-EI amide #status predicted <MA2>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted
F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 89.0%; Score 536; DB 1; Length 195;
Best Local Similarity 96.1%; Pred. No. 5.4e-48;
Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

1 1 GPTTCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
49 GPTTCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
|||||

QY 61 CAPLKPAAKARSVRAQRHDTMPKTKYQPPSTNNKMKSQRR 102
|||||
109 CAPLKPAAKARSVRAQRHDTMPKTKYQPPSTNNKMKSQRR 150
|||||

RESULT 3
A40912
Insulin-like growth factor I precursor form 1 - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: A40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonuc
c tissues.
A:Reference number: A40912; MUID:88288198
A:Accession: A40912
A:Status: preliminary

A:Molecule type: mRNA
A:Residues: 1-133 <ROB>
A:Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C:Superfamily: insulin
Query Match 86.5%; Score 521; DB 2; Length 133;
Best Local Similarity 87.4%; Pred. No. 1.3e-46;
Matches 97; Conservative 3; Mismatches 11; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
23 GPTTCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 82
|||||

QY 61 CAPLKPAAKARSVRAQRHDTMPKTKYQPPSTNNKMKSQRRRKGSTFEH 111
|||||
83 CVCRKPTKSARSIRAQRHDTMPKTKYQPPSTNNKMKSQRRRKGSTFEH 133
|||||

RESULT 4
A27804
Insulin-like growth factor I precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C:Accession: A27804; I65202
R:Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,
A:Reference number: A27804; MUID:87222423
A:Accession: A27804
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-181 <SHI>
A:Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R:Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A:Reference number: I52218; MUID:87298553
A:Accession: I65202
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-27 <RES>
A:Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C:Superfamily: insulin
C:Keywords: alternative splicing
Query Match 84.4%; Score 508; DB 2; Length 181;
Best Local Similarity 88.7%; Pred. No. 3.9e-45;
Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
49 GPTTCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
|||||

QY 61 CAPLKPAAKARSVRAQRHDTMPKTKYQPPSTNNKMKSQRRRKGST 106
|||||
109 CAPLKPAAKARSVRAQRHDTMPKTKYQPPSTNNKMKSQRRRKGST 154
|||||

RESULT 5
IGGPI
Insulin-like growth factor I precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C:Accession: S12719
R:Bell, G.I.; Stampien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A:Title: Sequence of a cDNA encoding guinea pig IGF-I.
A:Reference number: S12719; MUID:90332447
A:Accession: S12719
A:Molecule type: mRNA
A:Residues: 1-137 <BEL>
A:Cross-references: EMBL:X52951
A:Note: it is uncertain whether Met-1 or Met-8 is the initiator

C:Comment: The insulin-like growth factors, isolated from plasma, are structurally and identical for an alternative splice form, see PIR:IGH01B.
C:Genetics:
A:Gene: GDB:IGF1
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status experimental <MAT>
F:49-77/Domain: insulin chain B-like #status experimental <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin chain A-like #status experimental <CHA>
F:111-153/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.2%; Score 465; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 9,1e-41;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Db 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
49 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||
Qy 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
|||||
Db 109 CAPLPAKAAARSVRAQRHTDMPKTK 134
|||||

RESULT 8
PN0622
Insulin-like growth factor Ia precursor - dog (fragment)
C:Species: Canis lupus familiaris (dog)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
R:Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
C:Accession: PN0622
Gene 130, 305-306, 1993
A:Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A:Reference number: PN0622; MUID:93366192
A:Accession: PN0622
A:Molecule type: mRNA
A:Residues: 1-122
C:Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, act
C:Genetics:
A:Gene: IGF1a
C:Superfamily: insulin
C:Keywords: growth factor
C:Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 76.4%; Score 460; DB 2; Length 122;
Best Local Similarity 97.7%; Pred. No. 2.4e-40;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 20 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 79
|||||

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
|||||
Db 80 CAPLPAKAAARSVRAQRHTDMPKTK 105
|||||

RESULT 9
IG01
Insulin-like growth factor Ia precursor - bovine (fragment)
N:Alternate names: IGF-1; somatomedin C
C:Species: Bos primigenius taurus (cattle)
C:Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C:Accession: S12672; A25623; S00465
R:Fouts, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990
A:Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and I
A:Reference number: S12672; MUID:90175014
A:Accession: S12672
A:Molecule type: mRNA
A:Residues: 1-153 <FOF>
A:Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455
A:Experimental source: liver
J: Honegger, A.; Humbel, R.E.
J: Biol. Chem. 261, 569-575, 1986
A:Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purifi
A:Reference number: A92585; MUID:86085881
A:Accession: A25623
A:Molecule type: protein
A:Residues: 49-118 <HON>
R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A:Title: Insulin-like growth factors I and 2 in bovine colostrum. Sequences and biolo
A:Reference number: S00465; MUID:88268820
A:Accession: S00465
A:Molecule type: protein
A:Residues: 49-118 <PRA>
A:Experimental source: colostrum
A:Note: a form of IGF-I lacking the first three residues and possessing enhanced biol
C:Superfamily: insulin
C:Keywords: alternative splicing; colostrum; growth factor; plasma
F:1-20/Domain: signal sequence #status predicted <PRO>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor Ia (active) #status experimental <MAT>
F:49-77/Domain: insulin B chain-like #status experimental <DOB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin A chain-like #status experimental <DOA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 76.4%; Score 460; DB 1; Length 153;
Best Local Similarity 97.7%; Pred. No. 3e-40;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
|||||
Db 109 CAPLPAKAAARSVRAQRHTDMPKTK 134
|||||

RESULT 10
S12825
Insulin-like growth factor I precursor - pig,
N:Alternate names: somatomedin C
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C:Accession: S12825; S21488; A34938; A60738
R:Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A:Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated
A:Reference number: S12825; MUID:90221822
A:Accession: S12825
A>Status: preliminary
A:Molecule type: DNA
A:Residues: 1-153 <MUE>
A:Cross-references: EMBL:X52388
R:Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
Submitted to the EMBL Data Library, November 1989
A:Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-c
A:Reference number: S21488
A:Accession: S21488
A:Molecule type: DNA
A:Residues: 1-21 <DIC>
A:Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996

R:Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.

Mol. Endocrinol. 2, 674-681, 1988

A:Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid.

A:Reference number: A34938; MUID:89096956

A:Accession: A34938

A:Molecule type: mRNA

A:Residues: 'Y', 21-153 <NAV>

A:Cross-references: GB:M31175

R:Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.

J. Endocrinol. 122, 681-687, 1989

A:Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin.

A:Reference number: A60738; MUID:90039035

A:Accession: A60738

A:Molecule type: protein

A:Residues: 49-117, 'X' <PRA>

C:Genetics:

Introns: 21/3; 74/1

Superfamily: insulin

C:Keywords: growth factor

F:1-22/Domain: signal sequence #status predicted <SIG>

F:23-48/Domain: propeptide #status predicted <PRO>

F:49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 76.4%; Score 460; DB 2; Length 153;

Best Local Similarity 97.7%; Pred. No. 3e-40; Mismatches 1; Indels 0; Gaps 0;

Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

||||| 1-154 <NAV>

Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 108

||||| 1-154 <NAV>

Qy 61 CAPLPAKAAARSVRAQRHTDMPKQK 86

||||| 1-154 <NAV>

Db 109 CAPLPAKAAARSVRAQRHTDMPKQK 134

||||| 1-154 <NAV>

RESULT 11

JC2483

Insulin-like growth factor-I precursor - goat

C:Species: Capra aegagrus hircus (domestic goat)

C:Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999

C:Accession: JC2483

R:Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.

Biosci. Biotechnol. Biochem. 59, 87-92, 1995

A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I)

A:Reference number: JC2483; MUID:95201385

A:Accession: JC2483

A:Molecule type: mRNA

A:Residues: 1-154 <NAV>

A:Cross-references: GB:S11378; DBJ:D26116; DBJ:D26117; DBJ:D26118; DBJ:D26119

C:Genetics:

Introns: 21/3; 75/1; 135/3

C:Superfamily: insulin

F:1-49/Domain: signal sequence #status predicted <SIG>

F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>

F:120-154/Region: E domain

Query Match 75.7%; Score 456; DB 2; Length 154;

Best Local Similarity 96.5%; Pred. No. 7.8e-40;

Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

||||| 1-154 <NAV>

Db 50 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 109

||||| 1-154 <NAV>

Qy 61 CAPLPAKAAARSVRAQRHTDMPKQK 86

||||| 1-154 <NAV>

Db 110 CAPLPAKAAARSVRAQRHTDMPKQK 135

||||| 1-154 <NAV>

RESULT 12

S22878

Insulin-like growth factor I precursor, splice form 2 - sheep

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999

C:Accession: S22878; S07198

R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and

A:Reference number: S22877; MUID:91197361

A:Accession: S22877

A:Molecule type: DNA

A:Residues: 1-154 <DIC>

A:Cross-references: EMBL:X51358

R:Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.

DNA 8, 649-657, 1989

A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA

A:Reference number: A33390; MUID:90126234

A:Accession: A33390

A:Molecule type: mRNA

A:Residues: 1-43, 'SS', 46-154 <WON>

A:Cross-references: GB:M30653; NID:g165929; PIDN:AAA80532.1; PID:g165930

R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.

Biochim. Biophys. Acta 997, 27-35, 1989

A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh

insulin-like growth factor I precursor, splice form 2 - sheep

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999

C:Accession: S22878; S07198

R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and

A:Reference number: S22877; MUID:91197361

A:Accession: S22878

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-138 <DIC>

A:Cross-references: EMBL:X51358

R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.

Endocrinology 124, 1173-1183, 1989

A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays

A:Reference number: S07198; MUID:89136887

A:Accession: S07198

A:Molecule type: protein

A:Residues: 34-103 <PRA>

A:Experimental source: fetal plasma

C:Genetics:

Introns: 5/3; 59/1; 119/3

C:Superfamily: insulin

C:Keywords: alternative splicing; growth factor; plasma

F:7-33/Domain: propeptide #status predicted <PRO>

F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>

F:63-74/Domain: insulin chain B-like #status predicted <DOB>

F:63-74/Domain: insulin connecting peptide-like #status predicted <CHC>

F:75-95/Domain: insulin chain A-like #status predicted <DOA>

F:96-103/Domain: peptide D #status predicted <CHD>

F:104-138/Domain: peptide D #status predicted <CHD>

F:104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

F:739-81,51-94,80-85/disulfide bonds: #status predicted

Query Match 75.1%; Score 452; DB 2; Length 138;

Best Local Similarity 96.5%; Pred. No. 1.8e-39;

Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

||||| 1-154 <NAV>

Db 34 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 93

||||| 1-154 <NAV>

Qy 61 CAPLPAKAAARSVRAQRHTDMPKQK 86

||||| 1-154 <NAV>

Db 94 CAPLPAKAAARSVRAQRHTDMPKQK 119

||||| 1-154 <NAV>

RESULT 13

A33390

Insulin-like growth factor I precursor, splice form 1 - sheep

N:Alternate names: somatomedin C

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C:Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999

C:Accession: S22877; A33390; S07965; S07198

R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and

A:Reference number: S22877; MUID:91197361

A:Accession: S22877

A:Molecule type: DNA

A:Residues: 1-154 <DIC>

A:Cross-references: EMBL:X51358

R:Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.

DNA 8, 649-657, 1989

A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA

A:Reference number: A33390; MUID:90126234

A:Accession: A33390

A:Molecule type: mRNA

A:Residues: 1-43, 'SS', 46-154 <WON>

A:Cross-references: GB:M30653; NID:g165929; PIDN:AAA80532.1; PID:g165930

R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.

Biochim. Biophys. Acta 997, 27-35, 1989

A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh

R; Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.
 J. Biol. Chem. 264, 5616-5621, 1989
 A; Title: Primary structure of rat insulin-like growth factor-I and its biological activity
 A; Reference number: A32857; MUID:89174609
 A; Accession: A32857
 A; Molecule type: protein
 A; Residues: 49-118 <TAM>
 R; Canalis, E.; McCarthy, T.; Centrella, M.
 Endocrinology 122, 22-27, 1988
 A; Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C)
 A; Reference number: A61096; MUID:88082445
 A; Accession: A61096
 A; Molecule type: protein
 A; Residues: 49-53, 'X', 55-65 <CAN>
 C; Superfamily: insulin
 C; Keywords: alternative splicing; growth factor
 F; 49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 74.3%; Score 447; DB 2; Length 153;
 Best Local Similarity 94.2%; Pred. No. 6.5e-39;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY	1	GPETLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY	60
Db	49	GPETLCGAELVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY	108
QY	61	CAPLPAKAAARSVRAQRHTDMPKTK	86
Db	109	CAPLPTKSARSIRAQRHTDMPKTK	134

Search completed: October 25, 2002, 15:59:29
 Job time : 13.7048 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:06 ; Search time 25.4096 Seconds
(without alignments)
485.217 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCAELVDALQFVCGP.....THKKRLQRRKSGTLEEKK 111

Scoring table: BLOSOM62
Gapop 10.0 , Gapext 0.5
ched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_032802.*

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- 2: /SIDSL1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT.*
- 3: /SIDSL1/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT.*
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- 22: /SIDSL1/gcgdata/geneseq/geneseqp-emb1/AA2001.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	599	100.0	111	22	AAE02448 Rat IGF-I isoform
2	512	85.5	111	22	AAE02449 Rabbit IGF-I isofo
3	512	85.5	121	18	AAW23301 Rabbit insulin lik
4	494.5	82.6	110	22	AAE02447 Human IGF-I isofo
5	471	78.6	105	22	AAE02451 Rat liver-type IGF
6	471	78.6	105	22	AAE02531 Rat liver-type IGF
7	464	77.5	195	8	AAE02077 Sequence of pre-pr
8	423	70.6	105	22	AAE02450 Human liver-type I
9	423	70.6	137	22	AAU09067 Human insulin-like
10	423	70.6	153	16	AAE02451 Insulin-like growt
11	423	70.6	153	19	AAW69733 Human IGF-1. Homo

12	423	70.6	153	19	AAW57882 Human IGF-I protei
13	423	70.6	154	14	AAE02448 Goat insulin like
14	423	70.6	156	18	AAW23302 Human insulin like
15	420	70.1	105	22	AAE02452 Rabbit liver-type
16	416	69.4	119	7	AAE02456 Human prepro-somat
17	414	69.1	105	22	AAE02456 Rabbit liver-type
18	412.5	68.9	191	19	AAW64068 Chimeric rhIGF-I-A
19	367	61.3	78	21	AAE02456 Pep 17 used in nuc
20	367	61.3	78	21	AAE02456 Peptide ligand pep
21	367	61.3	78	22	AAU04272 Nuclear ligand pep
22	367	61.3	78	22	AAE02456 Nucleic acid trans
23	359	59.9	176	17	AAE02456 Rainbow trout insu
24	354	59.1	186	16	AAE02456 Flatfish insulin-l
25	344	57.4	71	9	AAE02456 Insulin-like growt
26	342	57.1	953	19	AAW56011 Recombinant botuli
27	341	56.9	70	5	AAE02456 Sequence of human
28	341	56.9	70	8	AAE02456 Sequence of oxidat
29	341	56.9	70	8	AAE02456 Sequence of human
30	341	56.9	70	10	AAE02456 New insulin-like g
31	341	56.9	70	14	AAE02456 Insulin-like growt
32	341	56.9	70	14	AAE02456 hIGF-I. Homo sapi
33	341	56.9	70	14	AAE02456 Peptide derived fr
34	341	56.9	70	15	AAE02456 Human IGF-I peptid
35	341	56.9	70	15	AAE02456 Sequence of insuli
36	341	56.9	70	16	AAE02456 Human insulin-like
37	341	56.9	70	17	AAE02456 Insulin like growt
38	341	56.9	70	17	AAE02456 Wild type IGF-1 se
39	341	56.9	70	17	AAE02456 Recombinant insuli
40	341	56.9	70	18	AAE02456 Peptide derived fr
41	341	56.9	70	18	AAE02456 Human mature insul
42	341	56.9	70	21	AAE02456 Human insulin-like
43	341	56.9	70	21	AAE02456 Insulin like growt
44	341	56.9	70	21	AAE02456 Amino acid sequenc
45	341	56.9	70	21	AAE02456

ALIGNMENTS

RESULT 1
AAE02448
ID AAE02448 standard; Protein; 111 AA.
XX
AC AAE02448;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rat IGF-I isoform mechano-growth factor (MGF) protein.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Rattus sp.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldslink G, Johnson I;
XX
DR WPI; 2001-355620/37.
DR N-FSDB; AAD06399.

XX PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 XX medicament for the treatment of neurological disorder -
 XX
 PS Claim 4; Page 52; 66pp; English.
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (EC) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX Sequence 111 AA;
 SQ Query Match 100.0%; Score 599; DB 22; Length 111;
 Best Local Similarity 100.0%; Pred. No. 1.6e-51;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVALQFVCGPRGFYFNKPYVGYSSIRRAPQTGIVDCCFRSCDLRLLEY 60
 DB 1 GPTLCGAEVLVALQFVCGPRGFYFNKPYVGYSSIRRAPQTGIVDCCFRSCDLRLLEY 60
 QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEKK 111
 DB 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEKK 111
 RESULT 2
 AAE02449
 ID AAE02449 standard; Protein; 111 AA.
 XX
 AC AAE02449;
 XX
 DT 10-AUG-2001 (first entry)
 XX
 Rabbit IGF-I isoform mechano-growth factor (MGF) protein.
 KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.
 XX
 OS Oryctolagus cuniculus.
 XX
 XX WO200136483-A1.
 PN
 XX
 PD 25-MAY-2001.
 XX
 XX 15-NOV-2000; 2000WO-GB04354.
 PF
 XX 15-NOV-1999; 99GB-0026968.
 PR
 XX (UNLO) UNIV COLLEGE LONDON.
 PA
 XX

PI Goldspink G, Johnson I;
 XX
 DR WPI: 2001-355620/37.
 XX N-PSDB; AAD06400.
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 XX medicament for the treatment of neurological disorder -
 XX
 PS Claim 4; Page 54; 66pp; English.
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (EC) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX Sequence 111 AA;
 SQ Query Match 85.5%; Score 512; DB 22; Length 111;
 Best Local Similarity 86.5%; Pred. No. 5.5e-43;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVALQFVCGPRGFYFNKPYVGYSSIRRAPQTGIVDCCFRSCDLRLLEY 60
 DB 1 GPTLCGAEVLVALQFVCGDRGFYFNKPYVGYSSIRRAPQTGIVDCCFRSCDLRLLEY 60
 QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEKK 111
 DB 61 CAPLKPAKAARSVRAQRHTDMPKTKYQPPSTNKKMKKSQRRRKGSTFEEHK 111
 RESULT 3
 AAW23301
 ID AAW23301 standard; Protein; 121 AA.
 XX
 AC AAW23301;
 XX
 DT 14-APR-1998 (first entry)
 XX
 DE Rabbit insulin like growth factor 1.
 XX
 KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.
 XX
 OS Oryctolagus cuniculus.
 XX
 XX WO9733997-A1.
 PD
 XX 18-SEP-1997.
 XX
 PF 11-MAR-1997; 97WO-GB00658.
 XX
 PR 11-MAR-1996; 96GB-0005124.
 XX
 PA (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
 XX
 PI Goldspink G;

```

XX WPI: 1997-470877/43.
DR N-PSDB; AAT84893.
XX
XX Use of insulin like growth factor I characterised by presence of Ec
XX peptide - to treat humans or animals, particularly muscle disorders,
XX heart conditions or neuromuscular diseases
XX
XX Disclosure; Fig 3; 33pp; English.
XX
XX A use of insulin like growth factor I (IGF-I) has been developed, and
XX is characterised by the presence of the Ec peptide, or a functional
XX equivalent, in the treatment or therapy of a human or animal. The IGF-I
XX polypeptide can be used to treat muscular disorders, e.g. Duchenne or
XX Becker muscular dystrophy, autosomal dystrophies and related progressive
XX skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
XX spinal cord injury induced muscle atrophy and neuromuscular diseases,
XX and cardiac disorders, e.g. diseases where promotion of cardiac muscle
XX protein synthesis is a beneficial treatment, cardiomyopathies and acute
XX heart failure or insult, specifically myocarditis or myocardial
XX infarction. It can also be used to promote bone fracture healing and
XX maintenance of bone in old age. The present sequence represents rabbit
XX IGF-I used in the present specification.
XX
XX Sequence 121 AA;
SQ
Query Match 85.5%; Score 512; DB 18; Length 121;
Best Local Similarity 86.5%; Pred. No. 6e-43;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
DB 11 GPTLCGAELVDALQFVCGDGRGFYFNKPTCYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEHK 111
DB 71 CAPLKPAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEHK 121
RESULT 4
AAE02447
ID AAE02447 standard; Protein; 110 AA.
XX
XX AAE02447;
XX
XX 10-AUG-2001 (first entry)
XX
XX Human IGF-I isoform mechano-growth factor (MGF) protein.
XX
XX Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
XX mechano-growth factor; neurological disorder; neurodegenerative disorder;
XX anyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
XX poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
XX nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
XX sex-linked muscular dystrophy; peripheral neuropathy;
XX Alzheimer's disease; Parkinson's disease.
XX
XX Homo sapiens.
XX
XX WO200136483-A1.
XX
XX 25-MAY-2001.
XX
XX 15-NOV-2000; 2000WO-GB04354.
XX
XX 15-NOV-1999; 99GB-0026968.
XX
XX (UNLO ) UNIV COLLEGE LONDON.
XX
XX Goldspink G, Johnson I;
XX
XX WPI: 2001-355620/37.
XX
XX N-PSDB; AAD06398.
XX
XX Use of mechano-growth factor, an isoform of Insulin-like Growth
XX Factor-I, capable of reducing motoneurone loss, in the manufacture of a
XX medicament for the treatment of neurological disorder -
XX
XX Claim 4; Page 50-51; 66pp; English.
XX
XX The present invention relates to use of mechano-growth factor (MGF),
XX an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
XX medicament for the treatment of neurological disorder. The MGF is capable
XX of reducing motoneurone loss by 20% or greater in response to nerve
XX avulsion, and effects motoneurone rescue, preferably adult motoneurone
XX rescue. The MGF polynucleotide and polypeptide are useful in the
XX manufacture of a medicament for the treatment of a neurological disorder,
XX including a disorder of motoneurons and/or neurodegenerative disorder,
XX e.g., anyotrophic lateral sclerosis, spinal muscular atrophy, progressive
XX spinal muscular atrophy, infantile or juvenile muscular atrophy,
XX poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
XX toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
XX injury that affects motoneurons, motoneurone loss associated with aging,
XX autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
XX peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
XX The present sequence is human IGF-I isoform MGF. MGF is a muscle
XX isoform having extracellular (Ec) domain, hence also referred as
XX IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
XX nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
XX of MGF.
XX
XX Sequence 110 AA;
SQ
Query Match 82.6%; Score 494.5; DB 22; Length 110;
Best Local Similarity 85.6%; Pred. No. 2.9e-41;
Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;
QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
DB 1 GPTLCGAELVDALQFVCGDGRGFYFNKPTCYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEHK 111
DB 61 CAPLKPAKARSVRAQRHTDMPKTKYQPPSTNKNKTSQ-RRKGSTFEHK 110
RESULT 5
AAE02451
ID AAE02451 standard; Protein; 105 AA.
XX
XX AAE02451;
XX
XX 10-AUG-2001 (first entry)
XX
XX Rat liver-type IGF-I isoform (L.IGF-I) protein.
XX
XX Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
XX mechano-growth factor; neurological disorder; neurodegenerative disorder;
XX anyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
XX poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
XX nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
XX sex-linked muscular dystrophy; peripheral neuropathy;
XX Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
XX Rattus sp.
XX
XX WO200136483-A1.
XX
XX 25-MAY-2001.
XX
XX 15-NOV-2000; 2000WO-GB04354.
XX
XX 15-NOV-1999; 99GB-0026968.
XX
XX (UNLO ) UNIV COLLEGE LONDON.
XX
XX
XX

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PI Goldspink G, Johnson I;
 XX WPI; 2001-355620/37.
 DR N-PSDB; AAD06404.
 XX
 XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX Disclosure; Page 58-59; 66pp; English.
 PS
 XX
 XX The present invention relates to use of mechano-growth factor (MGF),
 CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat liver-type IGF-I isoform (L-IGF-I).
 CC The L-IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence (SEQ ID NO: 12) is stated as being the
 CC same as that shown in figure 9 (AAE02531) of the specification. However
 CC it differs at a single position.
 XX
 XX Sequence 105 AA;

Query Match 78.6%; Score 471; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 5.6e-39;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLRLEY 60

QY 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86
 DB 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86

RESULT 6
 AAE02531
 QY AAE02531 standard; Protein; 105 AA.

AC AAE02531;

XX 10-AUG-2001 (first entry)

DE Rat liver-type IGF-I isoform (L-IGF-I) protein, alternative version.

XX Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.

XX Rattus sp.

XX Key Location/Qualifiers

FT Misc-difference 102

FT /note= "Encoded by ACC"

XX WO200136483-A1.

XX 25-MAY-2001.
 XX 15-NOV-2000; 2000WO-CB04354.
 XX 15-NOV-1999; 99GB-0026968.
 XX (UNLO) UNIV COLLEGE LONDON.
 XX Goldspink G, Johnson I;
 XX WPI; 2001-355620/37.
 DR N-PSDB; AAD06404.
 XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX Disclosure; Fig 9; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),
 CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is alternative version of rat liver-type IGF-I
 CC isoform (L-IGF-I). The L-IGF-I protein comprises amino acid sequences
 CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence is stated as being the same as SEQ ID NO: 12
 CC shown in sequence listing (AAE02451) of the specification. However
 CC it differs at a single position.

XX Sequence 105 AA;

Query Match 78.6%; Score 471; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 5.6e-39;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLRLEY 60

QY 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86

DB 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86

RESULT 7

AAP70277
 ID AAP70277 standard; protein; 195 AA.

AC AAP70277;

DT 05-APR-1991 (first entry)

DE Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).

XX Growth promoter; lactation enhancer; cell proliferation.

XX Homo sapiens.

XX EP229750-A.

PD 22-JUL-1987.
 XX
 PF 06-JAN-1987; 87EP-0870001.
 XX
 PR 20-NOV-1986; 86US-0929671.
 PR 07-JAN-1986; 86US-0816662.
 XX
 PA (UNIW) UNIV OF WASHINGTON.
 XX
 PI Krivi GG, Rotwein PS;
 XX
 DR WPI; 1987-200203/29.
 XX
 PT New pre-pro-insulin-like growth factor-1 protein - obtd. by
 PT recombinant DNA procedures for use as growth promoters for
 PT enhancing lactation, for stimulating cell proliferation etc.
 XX
 XX Claim 11; Fig 6; 59pp; English.
 CC A 42 base oligonucleotide corresponding to the DNA sequence encoding
 CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).
 CC The radiolabeled 42 mer was then employed to screen for IGF-I
 CC containing DNA sequences in a human liver cDNA library. Insulin-
 CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
 CC library by using lambda dact 11 (AAN70435, AAN70436). The human IGF-1
 CC genomic gene was isolated and mapped. It encodes at least two
 CC preproinsulin-like growth factor-1 proteins. An essentially pure
 CC preproinsulin-like growth factor-1 protein comprising the sequence
 CC of amino acids shown in Figure six is claimed (AAP70277).
 XX
 SQ Sequence 195 AA;
 Query Match 77.5%; Score 464; DB 8; Length 195;
 Best Local Similarity 85.3%; Pred. No. 5e-38;
 Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
 QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRCDLRLEMY 60
 DB 49 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 108
 QY 61 CVRCKPTKSARSIRQRHTDMPKTKSQPLSTHKRKLQRR 102
 DB 109 CAPLPAKSARSVRAQRHTDMPKTKYQPPSINKTKSQRR 150
 RESULT 8
 AA02450 standard; Protein; 105 AA.
 XX
 AC AAE02450;
 XX
 DT 10-AUG-2001 (first entry)
 XX
 DE Human liver-type IGF-I isoform (L-IGF-I) protein.
 XX
 KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.
 XX
 OS Homo sapiens.
 XX
 PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX

PA (UNILO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI; 2001-355620/37.
 DR N-PSDB; AAD06403.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 PS Disclosure; Fig 8; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is human liver-type IGF-I isoform (L-IGF-I).
 CC The L-IGF-I protein comprises amino acid sequences encoded by.
 CC nucleic acid sequence of IGF-I exons 4 and 6.
 XX
 SQ Sequence 105 AA;
 Query Match 70.6%; Score 423; DB 22; Length 105;
 Best Local Similarity 90.7%; Pred. No. 2.9e-34;
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRCDLRLEMY 60
 DB 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 60
 QY 61 CVRCKPTKSARSIRQRHTDMPKTKQ 86
 DB 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
 RESULT 9
 AA09067
 ID AA09067 standard; Protein; 137 AA.
 XX
 AC AA09067;
 XX
 DT 19-DEC-2001 (first entry)
 XX
 DE Human insulin-like growth factor, IGF1.
 XX
 KW Human; long-term memory protein; ITM; insulin-like growth factor;
 KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;
 KW cerebrotective; drug discovery; therapeutic profiling;
 KW learning disability; memory impairment; brain injury; epilepsy;
 KW mental retardation; senile dementia; Alzheimer's disease.
 XX
 OS Homo sapiens.
 XX
 PN WO200174298-A2.
 XX
 PD 11-OCT-2001.
 XX
 PF 02-APR-2001; 2001WO-US10661.
 XX
 PR 31-MAR-2000; 2000US-193614P.
 XX

PA (UYBR-) UNIV BROWN RESEARCH FOUND.
 PA (HUGH-) HUGHES HOWARD MED INST.
 XX
 PI Alberini CM, Bear MF;
 XX
 DR WPI; 2001-626335/72.
 DR N-PSDB; AAS14695.
 XX
 XX Regulating memory consolidation in an animal comprising treating with
 PT an agent that modulates activity of one or more genes from zif268,
 PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF
 XX
 PS Disclosure; Page 90-91; 100pp; English.
 XX
 CC The invention relates to modulating long term memory consolidation in an
 CC animal comprises treating with an agent that modulates the activity of
 CC one or more of genes from zif268, insulin-like growth factor (IGF),
 CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
 CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
 CC for identifying an agent which modulates memory consolidation. The method
 CC is useful for conducting a drug and/or target discovery business, which
 CC comprises conducting therapeutic profiling of the agents (or their
 CC analogues) identified, for efficacy and toxicity in animals, and
 CC formulating a pharmaceutical preparation including one or more agents
 CC identified as having an acceptable therapeutic profile and/or licensing
 CC to a third party the rights for further drug development of the
 CC identified agents. The method of conducting drug discovery business
 CC further comprises an additional step of establishing a distribution
 CC system for distributing the preparation for sale and may optionally
 CC include establishing a sales group for marketing the preparation. A
 CC pharmaceutical composition containing the agent is useful for enhancing
 CC memory consolidation in an animal, or for augmenting learning and memory,
 CC or otherwise for enhancing the functional performance of central nervous
 CC system neurons, where the agent is a cAMP elevating agent (agonist)
 CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
 CC activates adenylate cyclase. The composition is useful for treating
 CC diseases associated with learning disabilities, memory impairment e.g.
 CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
 CC children and senile dementia, including Alzheimer's disease. The
 CC present sequence represents human insulin-like growth factor, IGF1.
 XX
 SQ Sequence 137 AA;
 Query Match 70.6%; Score 423; DB 22; Length 137;
 Best Local Similarity 90.7%; Pred. No. 3.8e-34;
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDCCFRSCDLRLRLEY 60
 DB 33 GPTLCGAEVLVDALQFVCGDGRGFYFNKPTGYSRRAPQTGIVDCCFRSCDLRLRLEY 92
 61 CVRCKPTKSARSIRAOHRHTDMPKTOK 86
 DB 93 CAPLPAKSARSVRAQRHTDMPKTOK 118
 RESULT 10
 AAR83803
 ID AAR83803 standard; protein; 153 AA.
 XX
 AC AAR83803;
 XX
 DT 15-FEB-1996 (first entry)
 DE Insulin-like growth factor 1.
 XX
 DE Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
 KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
 KW burn; wound; brain metastasis.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 Human; IGF-1; insulin-like growth factor 1; urinary incontinence;

FT Peptide 49..118
 FT /label= mature peptide
 FT Domain 49..77
 FT /label= B domain
 FT Domain 78..89
 FT /label= C domain
 FT Domain 90..110
 FT /label= A domain
 FT Domain 111..118
 FT /label= D domain
 XX
 PN WO9516703-A1.
 XX
 XX 22-JUN-1995.
 PD
 XX 15-DEC-1994; 94WO-US14576.
 PF
 XX 15-DEC-1993; 93US-0167653.
 PR
 XX (UYJE-) UNIV JEFFERSON THOMAS.
 PA
 XX Baserga R, Jameson BA;
 PI
 XX WPI; 1995-231515/30.
 DR
 XX New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
 PT in treatment of diseases associated with undesirable cell
 PT proliferation
 PT
 XX Disclosure; Page 20-21; 28pp; English.
 PS
 XX The amino acid sequence of the insulin-like growth factor 1 pre-protein.
 CC Processing of the protein results in a 70 amino acid mature protein. The
 CC mature protein is split into 4 domains: the B domain has strong homology
 CC to the B chain of insulin, the A domain similarly has homology to the A
 CC chain of insulin. These domains are separated by a C domain and the
 CC mature protein is terminated by a D domain at the C-terminus. The D
 CC domain sequence was used to synthesis peptides (AAR83801-2) that
 CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
 CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
 CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
 CC Activated IGF-1R is associated with cellular growth and proliferation.
 CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
 CC IGF-1R and thus may be used in the treatment of disorders characterised
 CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
 CC wounds or brain metastases.
 XX
 SQ Sequence 153 AA;
 Query Match 70.6%; Score 423; DB 16; Length 153;
 Best Local Similarity 90.7%; Pred. No. 4.2e-34;
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDCCFRSCDLRLRLEY 60
 DB 49 GPTLCGAEVLVDALQFVCGDGRGFYFNKPTGYSRRAPQTGIVDCCFRSCDLRLRLEY 108
 61 CVRCKPTKSARSIRAOHRHTDMPKTOK 86
 DB 109 CAPLPAKSARSVRAQRHTDMPKTOK 134
 RESULT 11
 AAW69733
 ID AAW69733 standard; Protein; 153 AA.
 XX
 AC AAW69733;
 XX
 DT 26-OCT-1998 (first entry)
 DE Human IGF-1.
 XX
 KW Human; IGF-1; insulin-like growth factor 1; urinary incontinence;

gene therapy; neurotrophic factor.

OS Homo sapiens.

PN WO9833529-A1.

PD 06-AUG-1998.

XX 04-FEB-1998; 98WO-US02051.

XX 04-FEB-1997; 97US-0036862.

PA (GENE-) GENEMEDICINE INC.

XX Coleman M;

XX WPI; 1998-437184/37.

DR N-PSDB; AAV50425.

PT Treatment of urinary incontinence - by delivering nucleic acid
vector for expression of growth factor or neurotrophic factor in
tissue(s)

PS Claim 12d; Page 108-109; 117pp; English.

XX A method has been developed of treating urinary incontinence (UI) in
mammals. The method comprises delivering a nucleic acid vector for the
expression of a growth factor or neurotrophic factor in a tissue or
tissues. The present sequence represents human IGF-1 (insulin-like
growth factor 1) which is used in the method of the invention. Due to
the growth and stimulatory effects of growth factors and neurotrophic
factors, introducing these factors to degenerated muscles in the
urinary system can improve UI by enhancing both their integrity and
neural innervation.

SQ Sequence 153 AA;

Query Match 70.6%; Score 423; DB 19; Length 153;

Best Local Similarity 90.7%; Pred. No. 4.2e-34;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60

Db 49 GPETLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

61 CVRCKPTKSARSIRAQRHTDMPKTK 86

109 CAPLKPASARSVRAQRHTDMPKTK 134

RESULT 12

AAW57882

ID AAW57882 standard; Protein; 153 AA.

AC AAW57882;

XX 23-SEP-1998 (first entry)

DE Human IGF-I protein.

XX IGF-I; insulin-like growth factor I; skeletal alpha-actin gene promoter;
muscle atrophy; diabetes; osteoporosis; growth disorder; therapy; AIDS;
Chacot-marie-tooth disease; atherogenesis; haemophilia; neuropathy.

OS Homo sapiens.

XX WO9824922-A1.

XX 11-JUN-1998.

XX 01-DEC-1997; 97WO-US21852.

XX 19-NOV-1997; 97US-0974572.

PR 02-DEC-1996; 96US-0031539.

XX (BAYU) BAYLOR COLLEGE MEDICINE.

PA (GENE-) GENEMEDICINE INC.

XX Coleman M, Demayo EJ, Schwartz R;

XX WPI; 1998-333339/29.

DR N-PSDB; AAV40793, AAV40794.

XX New vector for expression of insulin-like growth factor-I -
containing a skeletal alpha-actin gene promoter, IGF-I coding
sequences and a 3' region from growth hormone 3'-UTR

PS Disclosure; Fig 13; 115pp; English.

XX This sequence is the human insulin-like growth factor I (IGF-I). The
DNA can be used in the vector of the invention, for expression of a
nucleic acid sequence in a cell, which comprises: (a) a nucleic acid
cassette containing a sequence encoding IGF-I; (b) a 5' flanking region
including one or more sequences necessary for expression of the nucleic
acid cassette, including a promoter from a skeletal alpha-actin gene;
(c) a linker connecting the 5' flanking region to a nucleic acid; the
linker having a position for inserting the nucleic acid cassette, and
lacking the coding sequence of a gene with which it is naturally
associated; and (d) a 3' flanking region, including a 3' untranslated
region or a 3' non coding region or both, where the 3' flanking region is
3' to the position for inserting the nucleic acid cassette and comprises
a sequence from a growth hormone 3'-UTR. The vector can provide for
efficient IGF-I expression, particularly in gene therapy. It can be used
for the delivery of IGF-I for treating diseases such as muscle atrophy,
diabetes, neuropathy, osteoporosis, and growth disorders. They can be
used for treating peripheral neuropathies resulting from diabetes,
genetic disease such as Type I or Type II diabetes, genetic disease such
as Chacot-marie-tooth disease, AIDS, atherogenesis, atherosclerotic,
cardiovascular, cerebrovascular, or peripheral vascular disease,
haemophilia, inflammation and side-effects from anti-cancer and
anti-viral drugs. The vectors can also be used to create transgenic
animals for research or livestock improvement.

SQ Sequence 153 AA;

Query Match 70.6%; Score 423; DB 19; Length 153;

Best Local Similarity 90.7%; Pred. No. 4.2e-34;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60

Db 49 GPETLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86

Db 109 CAPLKPASARSVRAQRHTDMPKTK 134

RESULT 13

AA40844

ID AAR40844 standard; Protein; 154 AA.

XX AAR40844;

XX 03-MAR-1994 (first entry)

DE Goat Insulin like growth factor 1 (IGF-1) precursor.

XX Insulin; growth factor; bone; tumour therapy.

XX Capra hircus.

XX JP05199878-A.

XX 10-AUG-1993.

PF 02-DEC-1991; 91JP-0347820.
 PR 02-DEC-1991; 91JP-0347820.
 XX (KOMA/) KOMANO T.
 PA WPI; 1993-284680/36.
 DR N-PSDB; AAQ47804.
 XX
 PT Goat insulin-like growth factor I - useful for prepn. of
 PT insulin-like growth factor I used for growth of bone and tumour
 PT therapy
 XX
 PS Claim 2; Figure 1; 6pp; Japanese.
 XX
 CC The goat IGF precursor is useful for the preparation of IGF-1 which
 CC is used for growth of bone and the therapy of tumours. The IGF-1
 CC precursor is prepared by inserting the coding sequence into an
 CC expression vector, transforming a host cell with the expression
 CC vector, culturing the transformed cell and retrieving the IGF-1
 CC precursor from the culture supernatant.
 XX
 CC Sequence 154 AA;
 CC
 CC Query Match : 70.6%; Score 423; DB 14; Length 154;
 CC Best Local Similarity 90.7%; Pred. No. 4.2e-34;
 CC Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 CC
 QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 50 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 109
 QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
 DB 110 CAPLKPTKSARSVRAQRHDTMPKAQK 135
 CC
 CC RESULT 14
 CC AAW23302
 CC ID AAW23302 standard; Protein; 156 AA.
 CC AC AAW23302;
 CC DT 14-APR-1998 (first entry)
 CC DE Human insulin like growth factor 1 Ea isoform.
 CC KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 CC KW heart; neuromuscular disease.
 CC XX Homo sapiens.
 CC XX WO9733997-Al.
 CC XX 18-SEP-1997.
 CC XX
 CC PF 11-MAR-1997; 97WO-GB00658.
 CC XX
 CC PR 11-MAR-1996; 96GB-0005124.
 CC XX
 CC PA (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
 CC PI Goldspink G;
 CC XX
 CC DR WPI; 1997-470877/43.
 CC DR N-PSDB; AAT84894.
 CC XX
 CC PT Use of insulin like growth factor I characterised by presence of Ec
 CC peptide - to treat humans or animals, particularly muscle disorders,
 CC PT heart conditions or neuromuscular diseases
 CC XX
 CC PS Disclosure; Fig 4; 33pp; English.
 CC XX

CC A use of insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents human
 CC IGF-1 Ea isoform used in the present specification.
 XX
 CC Sequence 156 AA;
 CC
 CC Query Match : 70.6%; Score 423; DB 18; Length 156;
 CC Best Local Similarity 90.7%; Pred. No. 4.3e-34;
 CC Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 CC
 QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 52 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 111
 QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
 DB 112 CAPLKPTKSARSVRAQRHDTMPKTK 137
 CC
 CC RESULT 15.
 CC AAE02452
 CC ID AAE02452 standard; Protein; 105 AA.
 CC AC AAE02452;
 CC XX 10-AUG-2001 (first entry)
 CC XX
 CC DE Rabbit liver-type IGF-I isoform (L.IGF-I) protein.
 CC KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 CC KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 CC KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 CC KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 CC KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 CC KW sex-linked muscular dystrophy; peripheral neuropathy;
 CC KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
 CC XX
 CC OS Oryctolagus cuniculus.
 CC XX
 CC PN WO200136483-Al.
 CC XX
 CC PD 25-MAY-2001.
 CC XX
 CC PF 15-NOV-2000; 2000WO-GB04354.
 CC XX
 CC PR 15-NOV-1999; 99GB-0026968.
 CC XX
 CC PA (UNLO) UNIV COLLEGE LONDON.
 CC XX
 CC PI Goldspink G, Johnson I;
 CC XX
 CC DR WPI; 2001-355620/37.
 CC DR N-PSDB; AAD06405.
 CC XX
 CC PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 CC Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 CC PT medicament for the treatment of neurological disorder -
 CC PS Disclosure; Page 60-61; 66pp; English.
 CC XX
 CC CC The present invention relates to use of mechano-growth factor (MGF),
 CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rabbit liver-type IGF-I isoform (L-IGF-I).
CC The L-IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.
CC Note: The present sequence (SEQ ID NO: 14) is stated as being the
CC same as that shown in figure 10 (AAE02456) of the specification. However
CC it differs at few positions.

Sequence 105 AA;

Query Match 70.1%; Score 420; DB 22; Length 105;
Best Local Similarity 89.5%; Pred. No. 5.7e-34;
Matches 77; Conservative 2; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAEIVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFSCDRLRELMY 60
Db |||||
QY 1 GPETLCGAEIVDALQFVCGDRGFYFNKPTVYGSSRRAPQTGIVDECCFSCDRLRELMY 60
Db |||||
QY 61 CVRCKPTKSARSIRAOQRTDMPKTK 86
Db |||||
QY 61 CAPLKPAAKARSVRAQRTDMPKTK 86
Db |||||

Search completed: October 25, 2002, 15:57:10
Job time : 26.4096 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:52 ; Search time 10.0301 Seconds
(without alignments)
270.310 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAELVDALQFVCGP.....THKKRLORRKSTLEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Search: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents AA: *
1: /cgn2_6/ptodata/1/iaa/5A.COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B.COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A.COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B.COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS.COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	512	85.5	121	US-09-142-583A-4	Sequence 4, Appl
2	423	70.6	137	US-07-953-230A-10	Sequence 10, Appl
3	423	70.6	152	US-08-950-720A-9	Sequence 9, Appl
4	423	70.6	153	US-08-219-878A-1	Sequence 1, Appl
5	423	70.6	153	PCT-US93-04329-1	Sequence 1, Appl
6	423	70.6	156	US-09-142-583A-11	Sequence 11, Appl
7	416	69.4	119	5405942-1	Patent No. 5405942
8	412.5	68.9	191	US-08-989-251-41	Sequence 41, Appl
9	412.5	68.9	191	US-09-340-250-41	Sequence 41, Appl
10	412.5	68.9	191	US-09-528-108-41	Sequence 41, Appl
11	367	61.3	78	US-08-460-890A-47	Sequence 47, Appl
12	367	61.3	78	US-08-167-641C-47	Sequence 47, Appl
13	367	61.3	78	US-08-460-971A-47	Sequence 47, Appl
14	367	61.3	78	US-08-462-040-47	Sequence 47, Appl
15	359	59.9	176	US-07-953-230A-9	Sequence 9, Appl
16	341	56.9	70	US-07-947-035-1	Sequence 1, Appl
17	341	56.9	70	US-07-776-272-17	Sequence 17, Appl
18	341	56.9	70	US-07-958-903A-17	Sequence 17, Appl
19	341	56.9	70	US-08-462-018-17	Sequence 17, Appl
20	341	56.9	70	US-08-823-245-17	Sequence 17, Appl
21	341	56.9	70	US-08-482-271-1	Sequence 1, Appl
22	341	56.9	70	US-09-080-120A-1	Sequence 1, Appl
23	341	56.9	70	US-08-432-517-1	Sequence 1, Appl
24	341	56.9	70	US-07-963-329A-1	Sequence 1, Appl
25	341	56.9	70	PCT-US92-09443A-1	Sequence 1, Appl
26	341	56.9	70	PCT-US93-11458-1	Sequence 1, Appl
27	341	56.9	70	PCT-US95-08925-1	Sequence 1, Appl

28	341	56.9	94	1	US-07-989-845-28	Sequence 28, Appl
29	341	56.9	94	1	US-07-989-844-12	Sequence 12, Appl
30	341	56.9	94	1	US-08-161-044-12	Sequence 12, Appl
31	341	56.9	94	1	US-08-240-121-12	Sequence 12, Appl
32	341	56.9	94	1	US-08-451-241-12	Sequence 12, Appl
33	341	56.9	94	5	PCT-US93-11297-12	Sequence 12, Appl
34	341	56.9	94	5	PCT-US93-11298-28	Sequence 28, Appl
35	341	56.9	118	3	US-09-029-267-14	Sequence 14, Appl
36	341	56.9	155	1	US-08-328-961-8	Sequence 8, Appl
37	341	56.9	155	1	US-08-462-397-8	Sequence 39, Appl
38	341	56.9	155	3	US-08-989-251-39	Sequence 39, Appl
39	341	56.9	155	3	US-09-340-250-39	Sequence 39, Appl
40	341	56.9	155	4	US-09-528-108-39	Sequence 39, Appl
41	338	56.4	70	1	US-08-180-572-5	Sequence 5, Appl
42	336	56.1	83	1	US-07-947-035-18	Sequence 18, Appl
43	336	56.1	83	1	US-08-321-585A-12	Sequence 12, Appl
44	333	55.6	70	6	5470828-1	Patent No. 5470828
45	332	55.4	70	1	US-07-654-611-2	Sequence 2, Appl

ALIGNMENTS

RESULT 1
US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: US/09/142,583A
; APPLICATION NUMBER: US/09/142,583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

Query Match 85.5%; Score 512; DB 4; Length 121;
Best Local Similarity 86.5%; Pred. No. 1.6e-51;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
QY 1 GPETLCGAELVDALQFVCGPGRFYFNKPTVYGSIRRAPOTGIVDECCCFRSCDLRLLEY 60

Db 11 GPTLCAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 70
QY 61 CVRCKPTKSARSIRAQRHDTMPKTSQPLSTHKRKLQRRKGSTLEEHK 111
Db 71 CAPLKPAKARSVRAQRHDTMPKTIQYPPSTNNKMSQRRRKGSTFEHKK 121

RESULT 2
US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMBLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22131-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."

US-07-953-230A-10
Query Match 70.6%; Score 423; DB 1; Length 137;
Best Local Similarity 90.7%; Pred. No. 2.9e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
Db 33 GPTLCAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 92
QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
Db 93 CAPLKPAKARSVRAQRHDTMPKTK 118

RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.
; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
US-08-950-720A-9

Query Match 70.6%; Score 423; DB 3; Length 152;
Best Local Similarity 90.7%; Pred. No. 3.2e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
Db 23 GPTLCAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 82
QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
Db 83 CAPLKPAKARSVRAQRHDTMPKTK 108

RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris

STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/219,878A
FILING DATE: 30-MAR-1994
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/881,524
FILING DATE: 08-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Mark Deluca
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-1240
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: amino acid
TOPOLOGY: linear
US-08-219-878A-1

Query Match 70.6%; Score 423; DB 1; Length 153;
Best Local Similarity 90.7%; Pred. No. 3.3e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
Qy 1 GPTCLCGAELVDALQVCGPRGFYENKPTVYGSSIRRAPQTGIVDECCFRCDLRLEMY 60
Db 49 GPTCLCGAELVDALQVCGDRGFYENKPTVYGSSRRAPQTGIVDECCFRCDLRLEMY 108
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLKPASRSVRAQRHTDMPKTK 134

RESULT 5
US-09-852-261-4.rai
GENERAL INFORMATION:
APPLICANT: Bradford A. Jameson and Renato Baserga
TITLE OF INVENTION: IGF-1 Analogs
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSER: Woodcock Washburn
ADDRESSEE: Kurtz Mackiewicz & Norris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04329
FILING DATE: 19930507
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/881,524
FILING DATE: 08-MAY-92,
ATTORNEY/AGENT INFORMATION:
NAME: Mark Deluca

REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-0649
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US93-04329-1
Query Match 70.6%; Score 423; DB 5; Length 153;
Best Local Similarity 90.7%; Pred. No. 3.3e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
Qy 1 GPTCLCGAELVDALQVCGPRGFYENKPTVYGSSIRRAPQTGIVDECCFRCDLRLEMY 60
Db 49 GPTCLCGAELVDALQVCGDRGFYENKPTVYGSSRRAPQTGIVDECCFRCDLRLEMY 108
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLKPASRSVRAQRHTDMPKTK 134

RESULT 6
US-09-142-583A-11
Sequence 11, Application US/09142583A
Patent No. 6221842
GENERAL INFORMATION:
APPLICANT: GOLDSPIK, GEOFFREY
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSER: NIXON & VANDERHUYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22201
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/142,583A
FILING DATE: 29-Oct-1998
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB97/00658
FILING DATE: 11-MAR-1997
APPLICATION NUMBER: GB 9605124.8
FILING DATE: 11-MAR-1996
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36663
REFERENCE/DOCKET NUMBER: 117-263
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164000
TELEFAX: 7038164100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 156 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

Query Match 70.6%; Score 423; DB 4; Length 156;
Best Local Similarity 90.7%; Pred. No. 3.3e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

TELEFAX: 919 881 3175

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTK 172

RESULT 10

US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seitzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/528,108
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein

US-09-528-108-41

Query Match 68.9%; Score 412.5; DB 4; Length 191;
Best Local Similarity 89.7%; Pred. No. 6.7e-40;
Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 86 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 145
QY 61 CVRCKPTKSA-RSIRQRHTDMPKTK 86
Db 146 CAPLPAKSAKRSVRAQRHTDMPKTK 172

RESULT 11

US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2086
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-890A-47

Query Match 61.3%; Score 367; DB 2; Length 78;
Best Local Similarity 87.0%; Pred. No. 3.9e-35;
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 63
|||||
Db 2 TLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 61
QY 64 CRPKSARSIRQRHTD 80
Db 62 LRPARSARSVRAQRHTD 78

RESULT 12

US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.

ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: Storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/167,641C
FILING DATE: December 14, 1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 205/012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-167-641C-47

Query Match 61.3%; Score 367; DB 3; Length 78;
Best Local Similarity 87.0%; Pred. No. 3.9e-35;
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;
QY 4 TLGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
DB 2 TLGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
QY 64 CKPTKSARSIRAQRHTD 80
DB 62 LRPARSARSVRAQRHTD 78

RESULT 13
US-08-460-971A-47
Sequence 47, Application US/08460971A
Patent No. 6150168

GENERAL INFORMATION:
APPLICANT: Woo, Savio L.C.
APPLICANT: Smith, Louis C.
APPLICANT: Cristiano, Richard J.
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
TITLE OF INVENTION: METHODS OF USE
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Lyon & Lyon
STREET: 633 West Fifth Street
STREET: Suite 4700
CITY: Los Angeles
STATE: California
COUNTRY: U.S.A.
ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: Storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,971A
FILING DATE: June 5, 1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/167,641
FILING DATE: December 14, 1993
APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 212/063
TELECOMMUNICATION INFORMATION:
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-460-971A-47

Query Match 61.3%; Score 367; DB 4; Length 78;
Best Local Similarity 87.0%; Pred. No. 3.9e-35;
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;
QY 4 TLGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
DB 2 TLGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
QY 64 CKPTKSARSIRAQRHTD 80
DB 62 LRPARSARSVRAQRHTD 78

RESULT 14
US-08-462-040-47
Sequence 47, Application US/08462040
Patent No. 6177554
GENERAL INFORMATION:
APPLICANT: Woo, Savio L.C.
APPLICANT: Smith, Louis C.
APPLICANT: Cristiano, Richard J.
APPLICANT: Gottchalk, Stephen
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
TITLE OF INVENTION: METHODS OF USE
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Lyon & Lyon
STREET: 633 West Fifth Street
STREET: Suite 4700
CITY: Los Angeles
STATE: California
COUNTRY: U.S.A.
ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: Storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,040
FILING DATE: June 5, 1995
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/167,641
FILING DATE: December 14, 1993

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; MOLECULE TYPE: protein
US-07-953~230A-9

Query Match          59.9%; Score 359; DB 1; Length 176;
Best Local Similarity 67.3%; Pred. No. 8.2e-34;
Matches 68; Conservative 8; Mismatches 25; Indels 0; Gaps 0;

QY      1 GPETLCGAELVDALQFCVGRPGFKNFKPTVVGSGIRRAPOTGIWDECCFRSCDLRRLEMY 60
         | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db      45 GPETLCGAELVDLTQFCVGERGFYSKPTGYPSSRSHNRGIVDECCFQSCELRLREMY 104
         | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

QY      61 CVRCKPTKSARSRAQRHTDMPKTQSQPLSTHKKRKLQRR 101
         | _ | : | : | | | | | | | | | | | | | | | | | | | | | | | |
Db      105 CAPVKSGKAARSRAQRHTDMPRTPEKVSTAVQSVDTRGTERR 145
         | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Search completed: October 25, 2002, 16:00:05
Job time : 11.0301 secs
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:02 ; Search time 12.7048 Seconds
(without alignments)
839.517 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPTLCGAEIYDALQVFCGP.....THKKRLQRRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR71.*
1: pir1.*
2: pir2.*
3: pir3.*
4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	592	98.8	133	2 A40912	insulin-like growth
2	571	95.3	159	2 A26859	insulin-like growth
3	536	89.5	181	2 A27804	insulin-like growth
4	464	77.5	127	2 B40912	insulin-like growth
5	464	77.5	195	1 IGHU1B	insulin-like growth
6	443	74.0	153	2 B27804	insulin-like growth
7	440	73.5	127	2 A25540	insulin-like growth
8	423	70.6	137	1 IGGP1	insulin-like growth
9	423	70.6	137	2 A36552	insulin-like growth
10	423	70.6	153	1 IGHU1	insulin-like growth
11	423	70.6	154	2 JC2483	insulin-like growth
12	418	69.8	122	2 PN0622	insulin-like growth
13	418	69.8	153	1 IGB01	insulin-like growth
14	418	69.8	153	2 S12825	insulin-like growth
15	410	68.4	138	2 S22878	insulin-like growth
16	410	68.4	154	2 A33390	insulin-like growth
17	384	64.1	153	2 A41399	insulin-like growth
18	376.5	62.9	153	2 A36079	insulin-like growth
19	362.5	60.5	161	2 C54270	insulin-like growth
20	361	60.3	155	2 C44012	insulin-like growth
21	361	60.3	176	2 A41396	insulin-like growth
22	361	60.3	188	2 A54270	insulin-like growth
23	361	60.3	188	2 B54270	insulin-like growth
24	360	60.1	149	2 D54270	insulin-like growth
25	359	59.9	176	2 A46244	insulin-like growth
26	279.5	46.7	126	2 S66485	insulin-like growth
27	279	46.6	193	2 A53697	insulin-like growth
28	249	41.6	214	2 B46244	insulin-like growth
29	233	38.9	155	1 IGH02	insulin-like growth

30 232 38.7 179 2 S04858 insulin-like growth
31 224 37.4 187 2 T10897 insulin-like growth
32 223 37.2 139 2 A38612 insulin-like growth
33 222 37.1 181 2 B60738 insulin-like growth
34 221 36.9 180 1 IGHU2 insulin-like growth
35 219.5 36.6 183 2 S02423 insulin-like growth
36 216 36.1 128 2 I57671 insulin-like growth
37 215 35.9 93 2 I53642 insulin-like growth
38 212 35.4 180 2 A24913 insulin-like growth
39 211.5 35.3 183 2 I67610 insulin-like growth
40 209.5 35.0 180 1 IGR2 insulin-like growth
41 204 34.1 210 2 S66484 insulin-like growth
42 184.5 30.8 79 2 I51240 insulin-like growth
43 181 30.2 66 2 A60740 insulin-like growth
44 159 26.5 44 2 A34049 insulin-like growth
45 152.5 25.5 50 1 INFIS insulin - shorthor

ALIGNMENTS

RESULT 1
A40912
insulin-like growth factor I precursor form 1 - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: A40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A>Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyrib
c tissues.
A:Reference number: A40912; MUID:88288198
A:Accession: A40912
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-133 <R0B>
A:Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C:Superfamily: insulin

Query Match 98.8%; Score 592; DB 2; Length 133;
Best Local Similarity 99.1%; Pred. No. 7.2e-53;
Matches 110; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 GPTLCGAEIYDALQVFCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
DB 23 GPTLCGAEIYDALQVFCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 82
QY 61 CVRCKPTKSARSIRAORHTDMPKTSQPLSTHKKRLQRRKGSTLEEHK 111
|||||
DB 83 CVRCKPTKSARSIRAORHTDMPKTSQPLSTHKKRLQRRKGSTLEEHK 133

RESULT 2
A26859
insulin-like growth factor IB precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C:Accession: A26859
R:Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A>Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the
A:Reference number: A26859; MUID:88015572
A:Accession: A26859
A:Molecule type: mRNA
A:Residues: 1-159 <SHI>
A:Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor

Query Match 95.3%; Score 571; DB 2; Length 159;
Best Local Similarity 96.4%; Pred. No. 1.1e-50;
Matches 107; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGSTLEEHK 111
| |||||
Db 109 CAPLKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGSTLEEHK 159

RESULT 3
A27804
insulin-like growth factor I precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C:Accession: A27804; I65202
R:Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and
A:Reference number: A27804; MUID:87222423
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-181 <SHI>
Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R:Roberts, C.F.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A:Reference number: I52218; MUID:87298553
A:Accession: I65202
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-27 <RES>
A:Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C:Superfamily: insulin
C:Keywords: alternative splicing

Query Match 89.5%; Score 536; DB 2; Length 181;
Best Local Similarity 94.3%; Pred. No. 4.5e-47;
Matches 100; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGST 106
| |||||
Db 109 CAPLKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGES 154

RESULT 4
B40912
insulin-like growth factor I precursor form 2 - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: B40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu-
c tissues.
A:Reference number: A40912; MUID:88288198
A:Accession: B40912
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-127 <ROB>
A:Cross-references: GB:M15481; NID:g204753; PIDN:AAA41387.1; PID:g204754
C:Superfamily: insulin

Query Match 77.5%; Score 464; DB 2; Length 127;
Best Local Similarity 98.8%; Pred. No. 6.5e-40;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
|||||

Db 23 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 82
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKQ 86
|||||
Db 83 CVRCKPTKSARSIRAQRHTDMPKTKQ 108
RESULT 5
IGHU1B
insulin-like growth factor I precursor, splice form B [validated] - human
N:Alternate names: IGF-IB; somatomedin C
N:Contains: insulin-like growth factor IB-E1 amide
C:Species: Homo sapiens (man)
C>Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A01611; A26181; S30540; B48960; A42664
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. A1
A:Reference number: A92581; MUID:86168194
A:Accession: A01611
A:Molecule type: DNA
A:Residues: 1-195 <ROT1>
A:Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
R:Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A:Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver
A:Reference number: A26181; MUID:86094355
A:Accession: A26181
A:Molecule type: mRNA
A:Residues: 1-195 <ROT2>
A:Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R:Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-1b.
A:Reference number: S30540
A:Accession: S30540
A:Molecule type: mRNA
A:Residues: 1-195 <SAR>
A:Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumor
A:Reference number: A48960; MUID:93265440
A:Accession: B48960
A:Molecule type: mRNA
A:Residues: 1-195 <SA2>
A:Cross-references: GB:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence modified after extraction from NCBI backbone
A:Note: the authors translated the codon CAG for residues 124 and 133 as Glu
R:Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitt
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A:Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin
A:Reference number: A42664; MUID:92390398
A:Contents: annotation; IBE-1; amidated carboxyl end
C:Comment: For an alternative splice form, see PIR:IGHU1.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status predicted <MAT>
F:749-777/Domain: insulin chain B-like #status predicted <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:90-110/Domain: insulin chain A-like #status predicted <CHA>
F:111-118/Domain: D peptide #status predicted <CHD>
F:119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:151-172/Product: insulin-like growth factor IB-E1 amide #status predicted <MA2>

F:54-96,66-109,95-100/Disulfide bonds: #status predicted
F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 77.5%; Score 464; DB 1; Length 195;
Best Local Similarity 85.3%; Pred. No. 9.5e-40;
Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPETLCAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRCDLRLEMY 60
|||||
Db 49 GPETLCAELVDALQFVCGDRGRFYFNKPTGYSRRRAPOTGIVDECCFRCDLRLEMY 108
|||||

QY 61 CVRCKPTKSARSIRAQHTDMPKTKSQPLSTHKRKLQRRR 102
| || |||||:|||||:||||| || ||:| |||:

Db 109 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKTKSQRRK 150
| || |||||:|||||:||||| || ||:| |||:

RESULT 6
804
Alin-like growth factor IA precursor - rat
N:Alternate names: IGF-IA; somatomedin C
C:Species: Rattus norvegicus (Norway rat)
C:Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000
C:Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096
R:Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, an
A:Reference number: A27804; MUID:87222423
A:Accession: B27804
A:Molecule type: DNA
A:Residues: 1-153 <SHI>
A:Cross-references: GB:M1551; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300
R:Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund
DNA 6, 325-330, 1987
A:Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor
A:Reference number: A27849; MUID:88003970
A:Accession: A27849
A:Molecule type: mRNA
A:Residues: 27-153 <CAS>
A:Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752
R:Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.
Agric. Biol. Chem. 54, 1599-1601, 1990
A:Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth
A:Reference number: JH0133; MUID:91103966
A:Accession: JH0133
A:Molecule type: mRNA
A:Residues: 27-153 <KAT>
A:Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781
R:Experimental source: liver
R:Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.
Endocrinology 121, 684-691, 1987
A:Title: Identification, characterization, and regulation of a rat complementary deoxyri
A:Reference number: A28504; MUID:87246437
A:Accession: A28504
A:Molecule type: mRNA
A:Residues: 46-153 <MUR>
A:Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325
R:Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.
Agric. Biol. Chem. 54, 2225-2230, 1990
A:Title: Evidence of introduction by molecular cloning of artificial inverted sequence a
A:Reference number: JN0088; MUID:91136779
A:Accession: JN0088
A:Molecule type: mRNA
A:Residues: 'MSAPP', 22-153 <KA2>
A:Experimental source: liver
A:Note: The authors present evidence that this mRNA may contain an artifactual inversion
R: Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.
J. Biol. Chem. 264, 5616-5621, 1989
A:Title: Primary structure of rat insulin-like growth factor-I and its biological activa
A:Reference number: A32857; MUID:89174609
A:Accession: A32857
A:Molecule type: protein
A:Residues: 49-118 <TAM>
R:Canalis, E.; McCarthy, T.; Centrella, M.

```
Db 23 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPOTGIVDECCFRSCDLRLLEY 82
QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 83 CAPLKPTKAARSIRAQRHTDMPKTK 108

RESULT 8
IGGPI
insulin-like growth factor I precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C:Accession: S12719
R:Bell, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A:Title: Sequence of a cDNA encoding guinea pig IGF-I.
A:Reference number: S12719; MUID:90332447
A:Accession: S12719
A:Molecule type: mRNA
A:Residues: 1-137 <BEL>
A:Cross-references: EMBL:X52951
Note: it is uncertain whether Met-1 or Met-8 is the initiator
Superfamily: insulin
C:Keywords: glycoprotein; growth factor; plasma
F:1-32/Domain: signal sequence #status predicted <SIG>
F:33-102/Product: insulin-like growth factor I #status predicted <MAT>
F:62-73/Domain: insulin chain B-like #status predicted <CHB>
F:62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:74-94/Domain: insulin chain A-like #status predicted <CHA>
F:95-102/Domain: D peptide #status predicted <CHD>
F:103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 70.6%; Score 423; DB 1; Length 137;
Best Local Similarity 90.7%; Pred. No. 9.9e-36;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPOTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPOTGIVDECCFRSCDLRLLEY 92

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 93 CAPLKPAKSARSIRAQRHTDMPKTK 118

RESULT 9
A36552
insulin-like growth factor la precursor - human
C:Species: Homo sapiens (man)
C:Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
C:Accession: A36552
R:Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
Mol. Endocrinol. 4, 1914-1920, 1990
A:Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal
A:Reference number: A36552; MUID:91187000
A:Accession: A36552
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-137 <TOB>
A:Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834
C:Superfamily: insulin

Query Match 70.6%; Score 423; DB 2; Length 137;
Best Local Similarity 90.7%; Pred. No. 9.9e-36;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPOTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPOTGIVDECCFRSCDLRLLEY 92

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
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Db 93 CAPLKPAKSARSIRAQRHTDMPKTK 118

RESULT 10
IGHU1
insulin-like growth factor I precursor, splice form A [validated] - human
N:Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A92581; A23614; A93321; JTO571; A23622; A92226; A60483; S30519; A48960;
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. A1
A:Reference number: A92581; MUID:86168194
A:Accession: A92581
A:Molecule type: DNA
A:Residues: 1-153 <ROT>
A:Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110
R:de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bo
FEBS Lett. 195, 179-184, 1986
A:Title: Organization of the human genes for insulin-like growth factors I and II.
A:Reference number: A91356; MUID:86108862
A:Accession: A23614
A:Molecule type: DNA
A:Residues: 24-153 <DEP>
A:Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB
R:Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H.
Nature 306, 609-611, 1983
A:Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A:Reference number: A93321; MUID:84068210
A:Accession: A93321
A:Molecule type: mRNA
A:Residues: 1-153 <JAN>
A:Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A:Note: Met-24 is proposed as a likely initiator
R:Steenberg, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A:Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A:Reference number: JTO571; MUID:91207342
A:Accession: JTO571
A:Molecule type: mRNA
A:Residues: 1-153 <STE>
A:Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
R:Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
FEBS Lett. 196, 108-112, 1986
A:Title: Complete characterization of the human IGF-I nucleotide sequence isolated fr
A:Reference number: A23622; MUID:86108910
A:Accession: A23622
A:Molecule type: mRNA
A:Residues: 1-153 <LEB>
A:Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g306927
R:Rinderknecht, E.; Humbel, R.E.
J. Biol. Chem. 253, 2769-2776, 1978
A:Title: The amino acid sequence of human insulin-like growth factor I and its struct
A:Reference number: A92226; MUID:78130171
A:Accession: A92226
A:Molecule type: protein
A:Residues: 49-118 <RIN>
R:Karey, K.P.; Marquardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A:Title: Human platelet-derived mitogens. Identification of insulinlike growth factor
A:Reference number: A60483; MUID:89323462
A:Accession: A60483
A:Molecule type: protein
A:Residues: 49-53, 'X', 55-65, 'X', 67-75 <KAR>
R:Experimental source: platelet lysate
R:Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-la.
A:Reference number: S30519
A:Accession: S30519
A:Status: preliminary
```


A:Molecule type: mRNA
A:Residues: 1-153 <NOR>
A:Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A:Reference number: A48960; MUID:93265440
A:Accession: A48960
A:Molecule type: mRNA
A:Residues: 1-123, 'E', 125-132, 'E', 134-153 <SAN>
A:Cross-references: GB:X56773; GB:S61841; NID:g32989
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBI:P133057)
A:Note: sequence inconsistent with the nucleotide translation
R:Hall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A:Title: Human insulin-like growth factor I and II messenger RNA: isolation of complementary cDNA clones and characterization of the complementary DNAs.
A:Reference number: 157044; MUID:88065102
A:Accession: 157044
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 24-153 <RAL>
A:Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
A:Comment: The insulin-like growth factors, isolated from plasma, are structurally and functionally identical to the insulin-like growth factors isolated from plasma.
C:Comment: For an alternative splice form, see PIR:IGHU1B.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:L20081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status experimental <MAT>
F:49-77/Domain: insulin chain B-like #status experimental <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin chain A-like #status experimental <CHA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide)
F:54-96,66-109,95-100/Disulfide bonds: #status predicted <CPRO>
Query Match 70.6%; Score 423; DB 1; Length 153;
Best Local Similarity 90.7%; Pred. No. 1.le-35;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
Db 1 GPEILCGAELVDALQFVCGPRGFYFNKPTVYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
49 GPEILCGAELVDALQFVCGDRGFYFNKPTVYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLPAKSARSVRAQRHTDMPKTK 134
RESULT 11
JC2483
Insulin-like growth factor-I precursor - goat
C:Species: Capra aegagrus hircus (domestic goat)
C:Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C:Accession: JC2483
R:Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I) during fetal development.
A:Reference number: JC2483; MUID:95201385
A:Accession: JC2483
A:Molecule type: mRNA
A:Residues: 1-154 <MIK>
A:Cross-references: GB:S11378; DBJ:D26116; DBJ:D26117; DBJ:D26118; DBJ:D26119
C:Genetics:
C:Superfamily: insulin
F:1-49/Domain: signal sequence #status predicted <SIG>

F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F:120-154/Region: E domain
Query Match 70.6%; Score 423; DB 2; Length 154;
Best Local Similarity 90.7%; Pred. No. 1.le-35;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
Qy 1 GPEILCGAELVDALQFVCGPRGFYFNKPTVYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 50 GPEILCGAELVDALQFVCGDRGFYFNKPTVYGSSRRAPQTGIVDECCFRSCDLRLLEY 109
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 110 CAPLPAKSARSVRAQRHTDMPKTK 135
RESULT 12
PN0622
Insulin-like growth factor Ia precursor - dog (fragment)
C:Species: Canis lupus familiaris (dog)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C:Accession: PN0622
R:Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A:Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A:Reference number: PN0622; MUID:93366192
A:Accession: PN0622
A:Molecule type: mRNA
A:Residues: 1-122
C:Comment: This protein is a potent inducer of DNA synthesis in multiple cell types.
C:Genetics:
A:Gene: IGF1a
C:Superfamily: insulin
C:Keywords: growth factor
F:20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>
Query Match 69.8%; Score 418; DB 2; Length 122;
Best Local Similarity 89.5%; Pred. No. 2.8e-35;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;
Qy 1 GPEILCGAELVDALQFVCGPRGFYFNKPTVYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 20 GPEILCGAELVDALQFVCGDRGFYFNKPTVYGSSRRAPQTGIVDECCFRSCDLRLLEY 79
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 80 CAPLPAKSARSVRAQRHTDMPKTK 105
RESULT 13
IGB01
Insulin-like growth factor IA precursor - bovine (fragment)
N:Alternate names: IGF-I; somatomedin C
C:Species: Bos primigenius taurus (cattle)
C:Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C:Accession: S12672; A25623; S00465
R:Fotsis, T.; Murphy, C.; Gannon, F.
Nucleic Acids Res. 18, 676, 1990
A:Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and IGF-1 receptor.
A:Reference number: S12672; MUID:90175014
A:Accession: S12672
A:Molecule type: mRNA
A:Residues: 1-153 <FOT>
A:Cross-references: EMBL:X15726; NID:9454; PIDN:CAA33746.1; PID:9455
A:Experimental source: liver
R:Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A:Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purification and characterization of the growth factors.
A:Reference number: A25623; MUID:86085881
A:Accession: A25623
A:Molecule type: protein
A:Residues: 49-118 <HON>
R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.

Biochem. J. 251, 95-103, 1988
A:Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological
A:Reference number: S00465; MUID:86268820
A:Accession: S00465
A:Molecule type: protein
A:Residues: 49-118 <FRA>
A:Experimental source: colostrum
A>Note: a form of IGF-I lacking the first three residues and possessing enhanced biological
C:Superfamily: insulin
C:Keywords: alternative splicing; colostrum; growth factor; plasma
F:1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>
F:49-77/Domain: insulin B chain-like #status experimental <DOB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin A chain-like #status experimental <DOA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F:54-96,66-109,95-100/disulfide bonds: #status predicted

Query Match 69.8%; Score 418; DB 1; Length 153;
Best Local Similarity 89.5%; Pred. No. 3.5e-35;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
| | | | |
Db 109 CAPLPAKSAARSVRAQRHTDMPKAK 134

RESULT 14
S12825
Insulin-like growth factor I precursor - pig
N:Alternate names: somatomedin C
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C:Accession: S12825; S21488; A34938; A60738
R:Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A:Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated re
A:Reference number: S12825; MUID:90221822
A:Accession: S12825
A>Status: preliminary
A:Molecule type: DNA
A:Residues: 1-153 <MUE>
A:Cross-references: EMBL:X52388
R:Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
Submitted to the EMBL Data Library, November 1989
Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-cod
Reference number: S21488
A:Accession: S21488
A:Molecule type: DNA
A:Residues: 1-21 <DIC>
A:Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
R:Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988
A:Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic a
es.
A:Reference number: A34938; MUID:89096956
A:Accession: A34938
A:Molecule type: mRNA
A:Residues: 'Y', 21-153 <YAV>
A:Cross-references: GB:M31175
R:Francis, G.L.; Owens, P.C.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989
A:Title: Purification, amino acid sequences and assay cross-reactivities of porcine insu
A:Reference number: A60738; MUID:90039035
A:Accession: A60738
A:Molecule type: protein
A:Residues: 49-117, 'X' <FRA>

C:Genetics:
A:Introns: 21/3; 74/1;
C:Superfamily: insulin
C:Keywords: growth factor
F:1-22/Domain: signal sequence #status predicted <SIG>
F:23-48/Domain: propeptide #status predicted <PRO>
F:49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 69.8%; Score 418; DB 2; Length 153;
Best Local Similarity 89.5%; Pred. No. 3.5e-35;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
| | | | |
Db 109 CAPLPAKSAARSVRAQRHTDMPKAK 134

RESULT 15
S22878
Insulin-like growth factor I precursor, splice form 2 - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999
C:Accession: S22878; S07198
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression an
A:Reference number: S22877; MUID:91197361
A:Accession: S22878
A>Status: preliminary
A:Molecule type: DNA
A:Residues: 1-138 <DIC>
A:Cross-references: EMBL:X51358
R:Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays
A:Reference number: S07198; MUID:89136887
A:Accession: S07198
A:Molecule type: protein
A:Residues: 34-103 <FRA>
A:Experimental source: fetal plasma
C:Genetics:
A:Introns: 5/3; 59/1; 119/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:7-33/Domain: propeptide #status predicted <PRO>
F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>
F:34-62/Domain: insulin chain B-like #status predicted <DOB>
F:63-74/Domain: insulin connecting peptide-like #status predicted <CHC>
F:75-95/Domain: insulin chain A-like #status predicted <DOA>
F:96-103/Domain: peptide D #status predicted <CHD>
F:104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F:39-81,51-94,80-85/disulfide bonds: #status predicted

Query Match 68.4%; Score 410; DB 2; Length 138;
Best Local Similarity 88.4%; Pred. No. 2.1e-34;
Matches 76; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 34 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 93
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
| | | | |
Db 94 CAPLPAKSAARSVRAQRHTDMPKAK 119

Search completed: October 25, 2002, 15:59:28
Job time : 12.7048 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:51 ; Search time 6.68675 Seconds
(without alignments)
642.745 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAEVLQFVCGP.....THKKRKLORRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Search: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	537	89.6	133	1	IGFB_MOUSE
2	536	89.5	181	1	IGFB_RAT
3	512	85.5	143	1	IGF1_RABIT
4	464	77.5	195	1	IGFB_HUMAN
5	443	74.0	153	1	IGFA_RAT
6	440	73.5	127	1	IGFA_MOUSE
7	423	70.6	130	1	IGF1_CAVPO
8	423	70.6	153	1	IGFA_HUMAN
9	423	70.6	154	1	IGF1_CAPHI
10	418	69.8	122	1	IGF1_CANFA
11	418	69.8	153	1	IGF1_PIG
12	418	69.8	154	1	IGF1_BOVIN
13	410	68.4	154	1	IGF1_SHEEP
14	384	64.1	124	1	IGF1_COTJA
15	384	64.1	153	1	IGF1_CHICK
16	376.5	62.9	153	1	IGF1_XENLA
17	369	61.6	81	1	IGF1_SUNMU
18	362	60.4	161	1	IGFA_CYPCA
19	362	60.4	176	1	IGFB_CYPCA
20	361	60.3	176	1	IGF1_ONCKI
21	359	59.9	176	1	IGF1_ONCMY
22	358	59.8	122	1	IGF1_HORSE
23	249	41.6	214	1	IGF2_ONCMY
24	233	38.9	155	1	IGF2_BOVIN
25	232	38.7	179	1	IGF2_SHEEP
26	224	37.4	181	1	IGF2_HORSE
27	223	37.2	139	1	IGF2_MXGL
28	222	37.1	181	1	IGF2_PIG
29	221.5	37.0	129	1	IGF2_MUSVI
30	221	36.9	180	1	IGF2_HUMAN
31	216	36.1	128	1	IGF2_CAVPO
32	212	35.4	180	1	IGF2_MOUSE
33	209.5	35.0	180	1	IGF2_RAT

34	203	33.9	66	1	IGF2_CHICK	P33717 gallus gall
35	152.5	25.5	50	1	INS_MIOSC	P07453 myoxocephal
36	151.5	25.3	51	1	INS_GADCA	P01336 gadus calla
37	150	25.0	59	1	INS_HYDCO	P09536 hydrolagus
38	148.5	24.8	51	1	INS1_BATSP	P01337 batrachoidi
39	147	24.5	50	1	INS2_BATSP	P01338 batrachoidi
40	146	24.4	51	1	INS_ZAODH	P12708 zaocys dhum
41	145	24.2	51	1	INS_ALDHI	P12703 alligator m
42	143	23.9	51	1	INS_ANSAN	P07454 anser anser
43	143	23.9	51	1	INS_CROAT	P01334 crotalus at
44	142	23.7	51	1	INS_CHIBR	P01327 chinchilla
45	142	23.7	51	1	INS_TRASC	P31887 trachenys s

ALIGNMENTS

RESULT 1

ID	IGFB_MOUSE	STANDARD;	PRT;	133 AA.
AC	P05018;			
DT	13-AUG-1987 (Rel. 05, Created)			
DT	13-AUG-1987 (Rel. 05, Last sequence update)			
DT	30-MAY-2000 (Rel. 39, Last annotation update)			
DE	Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Mus musculus (Mouse).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.			
OX	NCBI_TaxID=10090;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=Liver;			
RX	MEDLINE=87040760; PubMed=3774549;			
RT	Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;			
RT	"Sequences of liver cDNAs encoding two different mouse insulin-like			
RT	growth factor I precursors".			
RL	Nucleic Acids Res. 14:7873-7882(1986).			
CC	-!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,			
CC	ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A			
CC	MUCH HIGHER GROWTH-PROMOTING ACTIVITY.			
CC	-!- SUBCELLULAR LOCATION: Secreted.			
CC	-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P05017) AND			
CC	ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.			
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.			
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration			
CC	between the Swiss Institute of Bioinformatics and the EMBL outstation -			
CC	the European Bioinformatics Institute. There are no restrictions on its			
CC	use by non-profit institutions as long as its content is in no way			
CC	modified and this statement is not removed. Usage by and for commercial			
CC	entities requires a license agreement (See http://www.isb-sib.ch/announce/			
CC	or send an email to license@isb-sib.ch).			
CC	EMBL; X04482; CAA28170.1; -			
DR	PIR; B25540; B25540.			
DR	HSSP; P05019; IGF1.			
DR	MGI; MGI:96432; Igf1.			
DR	InterPro; IPR000739; Insulin_IGF_relaxin.			
DR	Pfam; PF00049; Insulin; 1.			
DR	PRINTS; PR00276; INSULINA.			
DR	PRINTS; PR00277; INSULINB.			
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.			
DR	SMART; SM00078; ILGF; 1.			
DR	PROSITE; PS00262; INSULIN; 1.			
KW	Insulin family; Growth factor; Plasma; Alternative splicing; Signal.			
FT	SIGNAL 1 22			
FT	CHAIN 23 92			
FT	DOMAIN 23 51			
FT	DOMAIN 52 63			
FT	DOMAIN 64 84			
FT	DOMAIN 85 92			
FT	PROPEP 93 133			

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FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B8BD62502 CRC64;

Query Match 89.6%; Score 537; DB 1; Length 133;
Best Local Similarity 91.0%; Pred. No. 8.7e-52;
Matches 101; Conservative 2; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFSCDLRLLEY 60
Db 23 GPTLCGAEVLVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFSCDLRLLEY 82
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRRRKGSTLEEKK 111
Db 83 CAPLKPTKAARSIRAQRHTDMPKTSQPLSTHKKRKLQRRRKGSTLEEKK 133

RESULT 2
IGFB_RAT
ID IGFB_RAT STANDARD; PRT; 181 AA.
AC P08024:
01-AUG-1988 (Rel. 08, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGF1 OR IGF-1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing.";
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [3]
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RT Nakamura S., Niwa M., Zapp J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -1- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P08025) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@isb-sib.ch).
CC
DR EMBL; M15650; AAA41214.1; -
DR EMBL; M15647; AAA41214.1; JOINED.
DR EMBL; M15648; AAA41214.1; JOINED.
DR EMBL; M15649; AAA41214.1; JOINED.
DR EMBL; X06107; CAA29480.1; ALT_SEQ.
DR EMBL; M15480; AAA41385.1; ALT_SEQ.
DR PIR; A27804; A27804.
DR PIR; A26859; A26859.
DR PIR; A32857; A32857.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 ?
FT PROPEP 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 181 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF. 2).
SQ SEQUENCE 181 AA; 20322 MW; 52BAB431875A1A06 CRC64;

Query Match 89.5%; Score 536; DB 1; Length 181;
Best Local Similarity 94.3%; Pred. No. 1.6e-51;
Matches 100; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFSCDLRLLEY 60
Db 49 GPTLCGAEVLVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRRRKGST 106
Db 109 CAPLKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRRRKGST 154

RESULT 3
IGFI_RABIT
ID IGFI_RABIT STANDARD; PRT; 143 AA.
AC Q95222; O18846;
DT 01-NOV-1997 (Rel. 35, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1 OR IGF-1.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC STRAIN-ZIKA;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC STRAIN-ZIKA; TISSUE=Liver;
RA Flekna G., Brem G., Mueller M.;
```

Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.
 -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 -!- SUBCELLULAR LOCATION: Secreted.
 -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; IGF-IA AND IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
 -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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 EMBL; U75390; AAB48032.1; -.
 EMBL; AF022961; AAB80950.1; -.
 HSP; P05019; IGF1.
 InterPro: IPR000739; Insulin_IGF_relaxin.
 Pfam: PF00049; Insulin; 1.
 PRINTS; PR00276; INSULINA.
 PRINTS; PR00277; INSULINB.
 ProDom; PD001048; Insulin_IGF_relaxin; 1.
 SMART; SM00078; IIGF; 1.
 PROSITE; PS00262; INSULIN; 1.
 Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
 SIGNAL 1 32 POTENTIAL.
 FT CHAIN 33 102 INSULIN-LIKE GROWTH FACTOR I.
 FT PROPP 103 143 E PEPTIDE.
 FT DOMAIN 33 61 B.
 FT DOMAIN 62 73 C.
 FT DOMAIN 74 94 A.
 FT DOMAIN 95 102 D.
 FT DISULFID 38 80 BY SIMILARITY.
 FT DISULFID 50 93 BY SIMILARITY.
 FT DISULFID 79 84 BY SIMILARITY.
 FT VARSPIC 119 143 YPPSTNKKMKSQRRKRGSTFEHK -> EVHLKNTSRGSA
 GNKNRM (IN ISOFORM IGF-IA).
 FT SEQUENCE 143 AA; 16091 MW; 819AF577800A1B1A CRC64;
 Query Match 85.5%; Score 512; DB 1; Length 143;
 Best Local Similarity 86.5%; Pred. No 5e-49;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

 1 GPTLCGAELVDALQVCGRGRFYFNKPTVIGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
 |||||
 33 GPTLCGAELVDALQVCGDRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92
 |||||
 61 CVRCKTKSARSTRAGRHDTMPKTSQPLSTHKRKLQRRKRGSTLEEHK 111
 | |||
 93 CAPLKPAAKARSVRAQRHTDMPKTRQYQPPSTNKKMKSQRRKRGSTFEHK 143
 |||||
 RESULT 4
 IGF1_HUMAN STANDARD; PRT; 195 AA.
 ID IGF1_HUMAN
 AC P05019;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
 GN IGF1 OR IBP1.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 SEQUENCE FROM N.A.
 RX MEDLINE=86168194; PubMed=2937782;
 RA Rotwein P.; Pollock K.M.; Didier D.K.; Krivi G.G.;
 "Organization and sequence of the human insulin-like growth factor I

gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.";
 J. Biol. Chem. 261:4828-4832(1986).
 [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86094355; PubMed=3455760;
 RA Rotwein P.;
 "Two insulin-like growth factor I messenger RNAs are expressed in human liver.";
 Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
 [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108862; PubMed=3002851;
 de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M., van Cmmen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
 "Organization of the human genes for insulin-like growth factors I and II.";
 FEBS Lett. 195:179-184(1986).
 [4]
 RP SEQUENCE OF 22-50 FROM N.A.
 RX MEDLINE=84295593; PubMed=6382022;
 Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
 "Insulin-like growth factor II precursor gene organization in relation to insulin gene family.";
 Nature 310:777-781(1984).
 [5]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=78130171; PubMed=632300;
 Rinderknecht E., Humbel R.E.;
 "The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin.";
 J. Biol. Chem. 253:2769-2776(1978).
 [6]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=83210259; PubMed=6189745;
 Blundell T.L., Bedarke S., Humbel R.E.;
 "Tertiary structures, receptor binding, and antigenicity of insulinlike growth factors.";
 Fed. Proc. 42:2592-2597(1983).
 [7]
 RP STRUCTURE BY NMR.
 RX MEDLINE=91242464; PubMed=2036417;
 Cooke R.M., Harvey T.S., Campbell I.D.;
 "Solution structure of human insulin-like growth factor 1: a nuclear magnetic resonance and restrained molecular dynamics study.";
 Biochemistry 30:5484-5491(1991).
 [8]
 RP STRUCTURE BY NMR.
 RX MEDLINE=92316903; PubMed=1319992;
 Sato A., Nishimura S., Ohgoku Y., Koyama S., Kobayashi M., Yasuda T., Kobayashi Y.;
 "1H-NMR assignment and secondary structure of human insulin-like growth factor-I (IGF-I) in solution.";
 J. Biochem. 111:529-536(1992).
 [9]
 RP DISULFIDE BONDS.
 RX MEDLINE=89207850; PubMed=3242681;
 Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
 "Location of disulphide bonds in human insulin-like growth factors (IGFs) synthesized by recombinant DNA technology.";
 Biomed. Environ. Mass Spectrom. 16:3-8(1988).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-IA AND IGF-IB ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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EMBL: M14155; AAA52537.1; -
EMBL: M12659; AAA52537.1; JOINED.
EMBL: M14153; AAA52537.1; JOINED.
EMBL: M14154; AAA52537.1; JOINED.
EMBL: M11568; AAA52539.1; -
EMBL: X03563; CAA27250.1; ALT_SEQ.
EMBL: X03420; CAA27152.1; -
EMBL: X03421; CAA27153.1; -
EMBL: X03422; CAA27154.1; -
PIR: A01611; IGHU1B.
PIR: A23614; A23614.
PIR: A26181; A26181.
PIR: S30540; S30540.
PDB: 1GFI; 15-OCT-94.
PDB: 2GFI; 15-APR-93.
PDB: 3GFI; 15-APR-93.
MIM: 147440; -
MIM: 265850; -
InterPro: IPR000739; Insulin_IGF_relaxin.
Pfam: PF00049; Insulin; 1.
PRINTS: PR00276; INSULIN.
PRINTS: PR00277; INSULINB.
ProDom: PD001048; Insulin_IGF_relaxin; 1.
SMART: SM00078; IIGF; 1.
PROSITE: PS00262; INSULIN; 1.
Insulin family; Growth factor; 3D-structure; Plasma;
Alternative splicing; Signal. POTENTIAL.
FT SIGNAL 1 21
FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 195
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT STRAND 55 55
FT HELIX 56 65
FT TURN 66 68
FT STRAND 78 78
FT TURN 79 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;

Query Match 77.5%; Score 464; DB 1: Length 195;
Best Local Similarity 85.3%; Pred.No. 1.2e-43;
Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPTLGAELVDALQVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 60
Db 49 GPTLGAELVDALQVCGDGRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLMY 108
QY 61 CVRCKPTKARSIRARQHTDMPKTKSQPLSTHKKKLRQR 102
Db 109 CAPLKPAKSARVRAQRHTDMPKTKSQPLSTHKKKLRQR 150

RESULT 5
IGFA_RAT
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ID IGFA_RAT STANDARD; PRT; 153 AA.
AC P08025;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGF1 OR IGF-1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=88003970; PubMed=3652906;
RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA Hoyt E.C., Lund P.K.;
RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT I precursor.";
RL DNA 6:325-330(1987).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat
RT insulin-like growth factor-I mRNA";
RL Agric. Biol. Chem. 54:1599-1601(1990).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing.";
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [5]
RP SEQUENCE OF 46-153 FROM N.A.
RX MEDLINE=87246437; PubMed=3595538;
RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT "Identification, characterization, and regulation of a rat
RT complementary deoxyribonucleic acid which encodes insulin-like growth
RT factor-I.";
RL Endocrinology 121:684-691(1987).
RN [6]
RP SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapf J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS: ISOFORM IGF-IA (SHOWN HERE) AND
CC ISOFORM IGF-IB (AC P08024); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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RT growth factor-I (IGF-I) in solution. ";
RL J. Biochem. 111:529-536(1992).
RN [12]
RX DISULFIDE BONDS.
RX MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RL (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-I, IGF-IA AND IGF-IB ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; M14156; AAA52538.1; -;
DR EMBL; M12659; AAA52538.1; JOINED.
DR EMBL; M14153; AAA52538.1; JOINED.
DR EMBL; M14154; AAA52538.1; JOINED.
DR EMBL; X00173; CAA24998.1; -;
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; M27544; AAA52787.1; -;
DR EMBL; X03420; CAA27152.1; -;
DR EMBL; X03421; CAA27153.1; -;
DR EMBL; X03422; CAA27154.1; -;
DR EMBL; X57025; CAA40342.1; -;
DR EMBL; X56773; CAA40092.1; -;
DR PIR; A01610; IGHU1.
DR PIR; A23614; A23614.
DR PIR; A23622; A23622.
DR PIR; S30519; S30519.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MIM; 147440; -;
DR MIM; 265850; -;
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PR00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; 3D-structure;
KW Alternative splicing; Signal; POTENTIAL.
FT SIGNAL 1 21
FT PROPEP 22 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT TURN 56 65
FT HELIX 56 68
FT TURN 66 68
FT STRAND 78 78
FT TURN 79 81
FT STRAND 82 82

FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;
Query Match 70.6%; Score 423; DB 1; Length 153;
Best Local Similarity 90.7%; Pred. No. 2.8e-39;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
QY 1 GPTTCGAEVLVALQVCGPRGFYFNKPTVYCGSSIRRAPQTGIVDECCFRCDLRLEMY 60
DB 49 GPTTCGAEVLVALQVCGPRGFYFNKPTVYCGSSIRRAPQTGIVDECCFRCDLRLEMY 108
QY 61 CVRCKPTKSARSIRQRHTDMPKTK 86
DB 109 CAPLKPASARSVRAQRHTDMPKTK 134
RESULT 9
IGF1_CAPHI STANDARD; PRT; 154 AA.
ID IGF1_CAPHI
AC P51457;
DT 01-OCT-1996 (Rel. 34, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC STRAIN-SHIBA; TISSUE=Liver;
RX MEDLINE=95290780; PubMed=7772848;
RA Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA Utsumi K.;
RT "Tissue- and development-specific expression of goat insulin-like
RT growth factor-I (IGF-I) mRNAs.";
RL Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED: BRAIN,
CC LUNG, LIVER, SPLEEN, UTERUS, OVARY, TESTIS, HEART AND SKELETAL
CC MUSCLE.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
DR EMBL; D26116; BAA05112.1; ALT_TERM.
DR EMBL; D26117; BAA05113.1; -;
DR EMBL; D26118; BAA05114.1; -;
DR EMBL; D26119; BAA05115.1; -;
DR EMBL; D11378; BAA01976.1; -;
DR HSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.

DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP 2 49 BY SIMILARITY.
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 50 78 B.
FT DOMAIN 50 78 C.
FT DOMAIN 79 90 A.
FT DOMAIN 112 119 D.
FT PROPEP 120 154 E PEPTIDE.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
SQ SEQUENCE 154 AA; 17082 MW; 07238B6AF3068422 CRC64;

Query Match 70.6%; Score 423; DB 1; Length 154;
Best Local Similarity 90.7%; Pred. No. 2.8e-39;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60
50 GPETLCGAELVDALQFVCGRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 109
QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
110 CAPLKPTKSARSIRAQRHDTMPKTK 135
DB 110 CAPLKPTKSARSIRAQRHDTMPKTK 135

RESULT 10
IGFL_CANFA
ID IGFL_CANFA STANDARD; PRT; 122 AA.
AC P33712;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).
GN IGFL OR IGFLA.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=93366192; PubMed=8359700;
RA Defontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL Gene 130:305-306(1993).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC or send an email to license@sib-sib.ch).
CC
CC EMBL; L08254; ; NOT_ANNOTATED_CDS.
DR PIR; P00622; P00622.
DR HSSP; P05019; IGFL.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT NON_TER 1 1

FT SIGNAL <1 19 BY SIMILARITY.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 122 E PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

Query Match 69.8%; Score 418; DB 1; Length 122;
Best Local Similarity 89.5%; Pred. No. 7.6e-39;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60
20 GPETLCGAELVDALQFVCGRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 79
DB 20 GPETLCGAELVDALQFVCGRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 79
QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
110 CAPLKPTKSARSIRAQRHDTMPKTK 105
DB 80 CAPLKPTKSARSIRAQRHDTMPKTK 105

RESULT 11
IGFL_PIG
ID IGFL_PIG STANDARD; PRT; 153 AA.
AC P16545;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFL.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9823;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90221822; PubMed=2326169;
RA Mueller M., Brem G.;
RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT untranslated region, exons 1 and 2 and mRNA.";
RL Nucleic Acids Res. 18:364-364(1990).
RN [2]
RP SEQUENCE OF 20-153 FROM N.A.
RX MEDLINE=89069556; PubMed=3211153;
RA Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT "Porcine insulin-like growth factor-I (pigf-I): complementary
RT deoxyribonucleic acid cloning and uterine expression of messenger
RT ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL Mol. Endocrinol. 2:674-681(1988).
RN [3]
RP SEQUENCE OF 1-21 FROM N.A.
RC STRAIN-WHITE LANDRAGE; TISSUE=Liver;
RX MEDLINE=94128209; PubMed=8297476;
RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA Gilmore R.S.;
RT "The porcine insulin-like growth factor-I gene: characterization and
RT expression of alternate transcription sites.";
RL J. Mol. Endocrinol. 11:201-211(1993).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC EMBL; X17492; CAA35527.1; -
CC EMBL; X52388; CAA36617.1; -
DR EMBL; X52077; CAA36296.1; -
DR EMBL; X31175; CAA31043.1; -
DR EMBL; X17638; CAA35632.1; -
DR PIR; A34938; A34938.
DR HSP; P05019; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
Insulin family; Growth factor; Plasma; Signal.
FI SIGNAL 1 ?
FT PROPEP ? 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;

Query Match 69.8%; Score 418; DB 1; Length 153;
Best Local Similarity 89.5%; Pred. No. 9.7e-39;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 49 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLKPAKSARSVRAQRHTDMPKAQK 134

RESULT 12
1_BOVIN STANDARD; PRT; 154 AA.
AC P07455;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFI.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE OF 2-154 FROM N.A.
RX MEDLINE-90175014; PubMed-2308858;
RA Fotsis T., Murphy C., Gannon F.;
RT "Nucleotide sequence of the bovine insulin-like growth factor 1
(IGF-1) and its IGF-1A precursor";
RL Nucleic Acids Res. 18:676-676(1990).
RN [2]
RP SEQUENCE OF 50-119 FROM N.A.
RX MEDLINE-95172127; PubMed-7867698;
RA Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
oviduct during the oestrous cycle";
RL Exp. Clin. Endocrinol. 102:364-369(1994).

RNA SEQUENCE OF 50-119.
RX MEDLINE-86085881; PubMed-3941093;
RA Honegger A., Humbel R.E.;
RT "Insulin-like growth factors I and II in fetal and adult bovine
serum. Purification, primary structures, and immunological
cross-reactivities";
RL J. Biol. Chem. 261:569-575(1986).
[4]
RP SEQUENCE OF 50-119.
RX MEDLINE-88268820; PubMed-3390164;
RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
and biological activities compared with those of a potent truncated
form";
RL Biochem. J. 251:95-103(1988).
CC FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC SUBCELLULAR LOCATION: Secreted.
CC SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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EMBL; X15726; CAA33746.1; -
EMBL; S76122; AADI4209.1; -
PIR; A25623; IGBOL.
PIR; S00465; S00465.
PIR; S12672; S12672.
HSP; P05019; IGFI.
InterPro: IPR000739; Insulin_IGF_relaxin.
Pfam: PF00049; Insulin; 1.
PRINTS; PR00276; INSULIN.
PRINTS; PR00277; INSULIN.
ProDom; PD001048; Insulin_IGF_relaxin; 1.
SMART; SM00078; ILGF; 1.
PROSITE; PS00262; INSULIN; 1.
Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP ? 49 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 50 119 B.
FT DOMAIN 50 78 C.
FT DOMAIN 79 90 A.
FT DOMAIN 91 111 D.
FT DOMAIN 112 119 E PEPTIDE.
FT PROPEP 120 154 BY SIMILARITY.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
SQ SEQUENCE 154 AA; 17066 MW; 64201B6AF3140999 CRC64;

Query Match 69.8%; Score 418; DB 1; Length 154;
Best Local Similarity 89.5%; Pred. No. 9.7e-39;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 50 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 109

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 110 CAPLKPAKSARSVRAQRHTDMPKAQK 135

RESULT 13
IGFI_SHEEP STANDARD; PRT; 154 AA.
ID IGFI_SHEEP

AC P10763;
DT 01-JUL-1989 (Rel. 11, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RN SEQUENCE FROM N.A.
RN TISSUE=Liver;
RX MEDLINE=90126234; PubMed=2575490;
RA Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
RT in the mRNA population.";
RL DNA 8:649-657(1989).
RN [2]
RN SEQUENCE FROM N.A.
RN TISSUE=Liver;
RX MEDLINE=91197361; PubMed=2015053;
RA Dickson M.C., Saunders J.C., Gilmour R.S.;
RT "The ovine insulin-like growth factor-I gene: characterization,
RT expression and identification of a putative promoter.";
RL J. Mol. Endocrinol. 6:17-31(1991).
RN [3]
RN SEQUENCE FROM N.A.
RN TISSUE=Liver;
RX MEDLINE=93221682; PubMed=8466647;
RA Ohlsen S.M., Dean D.M., Wong E.A.;
RT "Characterization of multiple transcription initiation sites of the
RT ovine insulin-like growth factor-I gene and expression profiles of
RT three alternatively spliced transcripts.";
RL DNA Cell Biol. 12:243-251(1993).
RN [4]
RN SEQUENCE OF 55-135 FROM N.A.
RN STRAIN=COOPWORTH; TISSUE=Liver;
RX MEDLINE=93250051; PubMed=8485157;
RA Demmer J., Hill D.F., Petersen G.B.;
RT "Characterization of two sheep insulin-like growth factor II cDNAs
RT with different 5'-untranslated regions.";
RL Biochim. Biophys. Acta 1173:79-80(1993).
RN [5]
RN SEQUENCE OF 50-119.
RX MEDLINE=89136887; PubMed=2537174;
RA Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT "Sheep insulin-like growth factors I and II: sequences, activities
RT and assays.";
RL Endocrinology 124:1173-1183(1989).
RN [6]
RN SEQUENCE OF 50-79.
RX MEDLINE=89323215; PubMed=2752053;
RA Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT "Simultaneous isolation of insulin-like growth factors I and II from
RT adult sheep serum.";
RL Biochim. Biophys. Acta 997:27-35(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A, B (SHOWN HERE) AND C; ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; M30653; AAA80532.1; -
DR EMBL; M30653; AAA80533.1; -
DR EMBL; M31734; AAA80535.1; -
DR EMBL; M31734; AAA80534.1; -
DR EMBL; M31736; AAA31545.1; -
DR EMBL; M31735; AAA31546.1; -
DR EMBL; M31735; AAA31547.1; -
DR EMBL; M69472; CAA49230.1; -
DR EMBL; M69473; CAA49230.1; JOINED.
DR EMBL; M69474; CAA49230.1; JOINED.
DR EMBL; M69475; CAA49230.1; JOINED.
DR EMBL; M69472; CAA49231.1; -
DR EMBL; M69473; CAA49231.1; JOINED.
DR EMBL; M69474; CAA49231.1; JOINED.
DR EMBL; M69475; CAA49231.1; JOINED.
DR EMBL; M69473; CAA49232.1; -
DR EMBL; M69474; CAA49232.1; JOINED.
DR EMBL; M69475; CAA49232.1; JOINED.
DR EMBL; M89787; AAA31544.1; -
DR PIR; A33390; A33390.
DR PIR; B33390; B33390.
DR PIR; S07198; S07198.
DR HSSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT SIGNAL 1 ?
FT PROPEP 49
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 50 78 B.
FT DOMAIN 79 90 C.
FT DOMAIN 91 111 A.
FT DOMAIN 112 119 D.
FT PROPEP 120 154 E. PEPTIDE.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
FT VARSPLIC 1 21 MGKISLPTQLFKCCDFLK -> MVTP (IN ISOFORM C).
FT VARSPLIC 1 34 MISSING (IN ISOFORM A).
FT CONFLICT 57 57 A -> V (IN REF. 4).
SQ SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;
Query Match 68.4%; Score 410; DB 1; Length 154;
Best Local Similarity 88.4%; Pred. No. 7 3e-38;
Matches 76; Conservative 1; Mismatches 9; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRCDLRRLMY 60
DB 50 GPETLCGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRCDLRRLMY 109
QY 61 CVRCRPTKSARSIRAOHTDMPKTK 86
DB 110 CAPLKAARSARSVRAOHTDMPKAK 135
RESULT 14
IGF1_COTJA
ID IGF1_COTJA STANDARD; PRT; 124 AA.
AC P51462;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
DE (Fragment).
GN IGF1.

OS Coturnix coturnix japonica (Japanese quail).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianinae;
 OC Coturnix.
 OX NCBI_TaxID=93934;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95187621; PubMed=7891819;
 RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
 RA Noguchi T.;
 RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
 RT Japanese quail (Coturnix coturnix japonica): changes during growth
 RT and development or after estrogen administration.";
 RL Comp. Biochem. Physiol. 109C:191-204(1994).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC -----
 CC EMBL; S75247; ; NOT_ANNOTATED_CDS.
 CC DR HSSP; P05019; IGFI.
 CC DR InterPro; IPR000739; Insulin_IGF_relaxin.
 CC DR Pfam; PF00049; Insulin; 1.
 CC DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 CC DR SMART; SM00078; ILGF; 1.
 CC DR PROSITE; PS00262; INSULIN; 1.
 CC KW Insulin family; Growth factor; Plasma.
 CC FT NON_TER 1 1
 CC FT PROPEP <1 19 POTENTIAL
 CC FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
 CC FT DOMAIN 20 48 B.
 CC FT DOMAIN 49 60 A.
 CC FT DOMAIN 61 81 A.
 CC FT DOMAIN 82 89 D.
 CC FT PROPEP 90 124 E PEPTIDE.
 CC FT DISULFID 25 67 BY SIMILARITY.
 CC FT DISULFID 37 80 BY SIMILARITY.
 CC FT DISULFID 66 71 BY SIMILARITY.
 CC SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;
 Query Match 64.1%; Score 384; DB 1; Length 124;
 Best Local Similarity 70.8%; Pred. No. 3.9e-35;
 Matches 75; Conservative 6; Mismatches 17; Indels 8; Gaps 2;
 QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLLEY 60
 Db 20 GPETLCGAELVDALQFVCGDRGFYFNKPTVYGSRRRLHKGIVDECCFSCDLRLLEY 79
 QY 61 CVRCKPTKSARSIAQRHTDMPKTKSQPLSTHKRKLQRKRGST 106
 Db 80 CAPIKPKSARSVRAQRHTDMPKAQK-----EVH-----LKNTSRGNT 117
 RESULT 15
 IGFI_CHICK
 ID IGFI_CHICK STANDARD; PRT; 153 AA.
 AC P18254;
 DT 01-NOV-1990 (Rel. 16, Created)
 DT 01-NOV-1990 (Rel. 16, Last sequence update)
 DT 01-OCT-1996 (Rel. 34, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
 GN IGFI.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria; Aves; Neognathae; Galliformes; Phasianinae;
 OC Gallus.
 OX NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90190648; PubMed=2628728;
 RA Kajimoto Y., Rotwein P.;
 RA "Structure and expression of a chicken insulin-like growth factor I
 RT precursor";
 RL Mol. Endocrinol. 3:1907-1913(1989).
 RN [2]
 RP SEQUENCE OF 1-21 FROM N.A.
 RX MEDLINE=91236750; PubMed=2033062;
 RA Rotwein P., Kajimoto Y.;
 RA "Structure of the chicken insulin-like growth factor I gene reveals
 RT conserved promoter elements";
 RL J. Biol. Chem. 266:9724-9731(1991).
 RN [3]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=91106895; PubMed=2272467;
 RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
 RA McMurtry J.P., Wallace J.C.;
 RA "Chicken insulin-like growth factor-I: amino acid sequence,
 RT radioimmunoassay, and plasma levels between strains and during
 RT growth";
 RL Gen. Comp. Endocrinol. 79:459-468(1990).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC -----
 CC EMBL; M32791; AAA48828.1; -.
 CC DR EMBL; M74176; AAA48829.1; -.
 CC DR PIR; A41399; A41399.
 CC DR HSSP; P05019; IGFI.
 CC DR InterPro; IPR000739; Insulin_IGF_relaxin.
 CC DR Pfam; PF00049; Insulin; 1.
 CC DR PRINTS; PR00276; INSULINA.
 CC DR PRINTS; PR00277; INSULINE.
 CC DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 CC DR SMART; SM00078; ILGF; 1.
 CC DR PROSITE; PS00262; INSULIN; 1.
 CC KW Insulin family; Growth factor; Plasma; Signal.
 CC FT SIGNAL 1 ?
 CC FT PROPEP ? 48 INSULIN-LIKE GROWTH FACTOR I.
 CC FT CHAIN 49 118 B.
 CC FT DOMAIN 49 77 A.
 CC FT DOMAIN 78 89 C.
 CC FT DOMAIN 90 110 A.
 CC FT DOMAIN 111 118 D.
 CC FT PROPEP 119 153 E PEPTIDE.
 CC FT DISULFID 54 96 BY SIMILARITY.
 CC FT DISULFID 66 109 BY SIMILARITY.
 CC FT DISULFID 95 100 BY SIMILARITY.
 CC SEQUENCE 153 AA; 17267 MW; AAEL3FDEDI3EE2F8 CRC64;
 Query Match 64.1%; Score 384; DB 1; Length 153;
 Best Local Similarity 70.8%; Pred. No. 5e-35;
 Matches 75; Conservative 6; Mismatches 17; Indels 8; Gaps 2;
 QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLLEY 60
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTVYGSRRRLHKGIVDECCFSCDLRLLEY 108

Search completed: October 25, 2002, 15:57:35
Job time : 7.68675 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model
Run on: October 25, 2002, 15:53:12 ; Search time 20.7289 Seconds
(without alignments)
926.360 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPEILGAEIYDALQFVCGP.....THKKRLQRRKSGTLEBHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Archived: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

- Database : SPTREMBL19.*
- 1: sp_archaea.*
 - 2: sp_bacteria.*
 - 3: sp_fungi.*
 - 4: sp_human.*
 - 5: sp_invertebrate.*
 - 6: sp_mammal.*
 - 7: sp_mhc.*
 - 8: sp_organelle.*
 - 9: sp_phage.*
 - 10: sp_plant.*
 - 11: sp_rodent.*
 - 12: sp_virus.*
 - 13: sp_vertibrate.*
 - 14: sp_unclassified.*
 - 15: sp_rvirus.*
 - 16: sp_bacterioph.*
 - 17: sp_archaeap.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	486.5	81.2	139	4 Q13429	Q13429 homo sapien
2	443	74.0	127	11 P97899	P97899 rattus sp.
3	423	70.6	130	4 Q9NP10	Q9NP10 homo sapien
4	423	70.6	137	4 Q14620	Q14620 homo sapien
5	418	69.8	133	6 Q9NIC1	Q9NIC1 bos taurus
6	402	67.1	139	6 P79167	P79167 equus caball
7	384	64.1	153	13 Q93380	Q93380 meleagris g
8	362.5	60.5	161	13 Q91230	Q91230 oncorhynch
9	362	60.4	117	13 Q91476	Q91476 salmo salar
10	362	60.4	178	13 Q9IB10	Q9IB10 cyprinus ca
11	361	60.3	145	13 Q91475	Q91475 salmo salar
12	361	60.3	155	13 Q91162	Q91162 oncorhynch
13	361	60.3	188	13 Q91965	Q91965 oncorhynch
14	361	60.3	188	13 P81268	P81268 oncorhynch
15	360	60.1	116	13 Q91161	Q91161 oncorhynch
16	360	60.1	149	13 Q91231	Q91231 oncorhynch

17	359	59.9	161	13 Q90VV9	Q90VV9 brachydanio
18	355	58.3	186	13 Q93527	Q93527 paralichthy
19	351.5	58.7	185	13 Q57436	Q57436 paralichthy
20	351	58.6	117	13 Q91914	Q91914 ctenopharyn
21	351	58.6	159	13 Q93607	Q93607 paralichthy
22	348	58.1	161	13 Q98SR6	Q98SR6 megalobrama
23	347	57.9	161	13 Q9PWK2	Q9PWK2 carassius a
24	347	57.9	186	13 Q9PSX5	Q9PSX5 paralichthy
25	345	57.6	182	13 Q42289	Q42289 oreochromis
26	344	57.4	161	13 Q9YI82	Q9YI82 carassius a
27	344	57.4	182	13 Q79824	Q79824 oreochromis
28	344	57.4	182	13 Q73720	Q73720 oreochromis
29	332.5	55.5	185	13 Q9YI57	Q9YI57 acanthopagr
30	326	54.4	184	13 Q42336	Q42336 myoxocephal
31	325.5	54.3	69	6 O02807	O02807 bubalus bub
32	310	51.8	66	6 Q9NIS6	Q9NIS6 capreolus c
33	279.5	46.7	126	13 Q91442	Q91442 squalus aca
34	267	44.6	57	6 Q28236	Q28236 cervus elap
35	255.5	42.7	215	13 Q42429	Q42429 lates calca
36	255.5	42.7	215	13 Q73721	Q73721 tilapia sp.
37	252	42.1	62	13 Q9IAA0	Q9IAA0 carassius a
38	240	40.1	207	13 Q90XDO	Q90XDO cyprinus ca
39	238	39.7	217	13 Q90W44	Q90W44 xenopus lae
40	228	38.1	149	6 Q9MYX4	Q9MYX4 bos indicus
41	226	37.7	197	13 Q9PUD0	Q9PUD0 brachydanio
42	225.5	37.6	187	13 Q57687	Q57687 taenopygia
43	224	37.4	187	13 P79890	P79890 gallus gall
44	217	36.2	106	6 Q9MYZ6	Q9MYZ6 trichosurus
45	213.5	35.6	154	11 Q63265	Q63265 rattus norv

ALIGNMENTS

RESULT 1

Q13429 PRELIMINARY; PRT; 139 AA.
ID Q13429
AC Q13429; (TREMREL. 01, Created)
DT 01-NOV-1996 (TREMREL. 01, Last sequence update)
DT 01-NOV-1996 (TREMREL. 01, Last sequence update)
DT 01-DEC-2001 (TREMREL. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I (FRAGMENT).
GN IGF-I
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=95237119; PubMed=7720641;
RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT "An alternatively spliced human insulin-like growth factor-I
RT transcript with hepatic tissue expression that diverts away from the
RT mitogenic IGF-I peptide".
RL Endocrinology 136:1939-1944 (1995).

CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

DR EMBL; 040870; AAA96152.1; -
DR HSP; P01343; 1GF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PRO0276; INSULIN.
DR PRINTS; PRO0277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 81.2%; Score 486.5; DB 4; Length 139;
Best Local Similarity 84.7%; Pred. No. 3.7e-51;
Matches 94; Conservative 2; Mismatches 14; Indels 1; Gaps 1;

OC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX	NCBI_TaxID=9606;
RN	[1]
RP	SEQUENCE FROM N.A.
RE	MEDLINE=88065102; PubMed=3683205;
RA	Rall L.B., Scott J., Bell G.I.;
EX	"Human insulin-like growth factor I and II messenger RNA: isolation of
RT	complementary DNA and analysis of expression.";
FT	Meth. Enzymol. 146:239-248(1987).
RL	-!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR	EMBL; M29644; AAA52543.1; -.
DR	HSSP; P01343; IGF1.
DR	InterPro; IPR00739; Insulin_IGF_relaxin.
DR	PRINTS; PR00276; INSULINA.
DR	PRINTS; PR00277; INSULINB.
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR	SMART; SM00078; IIGF; 1.
DR	PROSITE; PS00262; INSULIN; 1.
KW	Signal.
FT	SIGNAL
FT	CHAIN
FT	SEQUENCE
FT	1 25 POTENTIAL.
FT	26 95 POTENTIAL.
FT	SEQUENCE 130 AA; 14406 MW; 970FBAAECFA0352D CRC64;
QY	Query Match 70.6%; Score 423; DB 4; Length 130;
DB	Best Local Similarity 90.7%; Pred. No. 1.7e-43;
DB	Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps
QY	1 GPETLGAELVDALQVCGPRGEYFNKPTVGGSSIRRAPQTGIVDECCFRSCDLRLLEMY 60
DB	
QY	26 GPETLGAELVDALQVCGDRGEYFNKPTVGGSSRRRAPQTGIVDECCFRSCDLRLLEMY 85
DB	
QY	61 CVRCKPTKSARSTRAQRHTDMPKTK 86
DB	
QY	86 CAPLFAKSAVSRAQRHTDMPKTK 111
DB	
RESULT 4	
Q14620	
ID	Q14620 PRELIMINARY; PRT; 137 AA.
AC	Q14620;
DT	01-NOV-1996 (TREMBLrel. 01, Created)
DT	01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT	01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE	INSULIN-LIKE GROWTH FACTOR I PRECURSOR.
GN	IGF1.
OS	Homo sapiens (Human).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX	NCBI_TaxID=9606;
RN	[1]
RP	SEQUENCE FROM N.A.
RE	MEDLINE=91187000; PubMed=2082190;
RA	Tobin G., Yee D., Brunner N., Rotwein P.;
EX	"A novel human insulin-like growth factor I messenger RNA is expressed
RT	in normal and tumor cells.";
FT	Mol. Endocrinol. 4:1914-1920(1990).
RL	-!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR	EMBL; M37484; AAA52789.1; -.
DR	HSSP; P01343; IGF1.
DR	InterPro; IPR00739; Insulin_IGF_relaxin.
DR	Pfam; PF00049; Insulin; 1.
DR	PRINTS; PR00276; INSULINA.
DR	PRINTS; PR00277; INSULINB.
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR	SMART; SM00078; IIGF; 1.
DR	PROSITE; PS00262; INSULIN; 1.
KW	Signal.
FT	SIGNAL
FT	CHAIN
FT	SEQUENCE
FT	1 32 POTENTIAL.
FT	33 137 INSULIN-LIKE GROWTH FACTOR I.
FT	SEQUENCE 137 AA; 15177 MW; BFCC0D11E32AB75D CRC64;


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Query Match          70.6%; Score 423; DB 4; Length 137;
Best Local Similarity 90.7%; Pred. No. 1.8e-43;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
    |||||
Db 33 GPETLCGAELVDALQVCGDRGFYFNKPTVYGGSSRRAPQTGIVDECCFRSCDLRRLEMY 92
    |||||
QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
    |||||
Db 93 CAPLPAKSARSVRAQRHTDMPKTK 118
    |||||

RESULT 5
Q9N1C1 PRELIMINARY; PRT; 133 AA.
AC Q9N1C1;
01-OCT-2000 (TReMBLrel. 15, Created)
01-OCT-2000 (TReMBLrel. 15, Last sequence update)
01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I (FRAGMENT).
GN IGFI.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RA Lien S., Karlén A., Klemetsdal G., Våge D.I., Olsaker I.,
RA Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT "A primary screen of the bovine genome for quantitative trait loci
RT affecting twinning rate.";
RL Submitted (Dec-1999) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF210387; AAF72409.1; -.
DR EMBL; AF210385; AAF72409.1; JOINED.
DR EMBL; AF210386; AAF72409.1; JOINED.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00276; INSULIN.
DR PRODOM; P0001048; Insulin_IGF_relaxin.
DR SMART; SM00078; ILGF.1.
DR PROSITE; PS00262; INSULIN; 1.
DR NON_TER 1.
SQ SEQUENCE 133 AA; 14674 MW; A6991DBC875C103B CRC64;

Query Match          69.8%; Score 418; DB 6; Length 133;
Best Local Similarity 89.5%; Pred. No. 6.9e-43;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
    |||||
Db 29 GPETLCGAELVDALQVCGDRGFYFNKPTVYGGSSRRAPQTGIVDECCFRSCDLRRLEMY 88
    |||||
QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
    |||||
Db 89 CAPLPAKSARSVRAQRHTDMPKTK 114
    |||||

RESULT 6
P79167 PRELIMINARY; PRT; 139 AA.
AC P79167;
01-MAY-1997 (TReMBLrel. 03, Created)
01-OCT-2000 (TReMBLrel. 15, Last sequence update)
01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR IB PRECURSOR (IGF-IB) (SOMATOMEDIN C)
DE (FRAGMENTS).
GN IGFI.
OS Equus caballus (Horse).

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OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE OF 1-122 FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=97013467; PubMed=8860303;
RA Otte K., Kozell B., Gessbo A., Engstrom W.;
RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA
RT and its expression in fetal and adult tissues.";
RL Gen. Comp. Endocrinol. 102:11-15(1996).
RN [2]
RP SEQUENCE OF 123-139 FROM N.A.
RA Nixon A.J., Toland B.D., Sandell L.J.;
RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: SECRETED.
CC -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING
CC (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U28070; AAA68952.1; -.
DR EMBL; U85271; AAB47484.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRODOM; P0001048; Insulin_IGF_relaxin.
DR SMART; SM00078; ILGF.1.
DR PROSITE; PS00262; INSULIN; UNKNOWN_1.
KW Insulin family; Growth factor; Signal.
FT SIGNAL 1 ?
FT PROPEP 48 BY SIMILARITY.
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 >139 E PEPTIDE.
FT NON_CONS 122 123
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT NON_TER 139 139
SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;

Query Match          67.1%; Score 402; DB 6; Length 139;
Best Local Similarity 76.7%; Pred. No. 6.2e-41;
Matches 79; Conservative 2; Mismatches 10; Indels 12; Gaps 1;

QY 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
    |||||
Db 49 GPETLCGAELVDALQVCGDRGFYFNKPTVYGGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
    |||||
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRK 103
    |||||
Db 109 CAPLPAKSARSVR-----YQPPSTNKKTKLQRRRK 139
    |||||

RESULT 7
O93380 PRELIMINARY; PRT; 153 AA.
ID O93380
AC O93380;
01-NOV-1998 (TReMBLrel. 08, Created)
01-NOV-1998 (TReMBLrel. 08, Last sequence update)
01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I PRECURSOR.
GN IGFI.
OS Meleagris gallopavo (Common turkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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OC Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
OX NCBI_TaxID=9103;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG 6 ML TOM; TISSUE=LIVER;
RA Czerwinski S.M., Ashwell C.M., McMurtry J.P.;
RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF074980; AAC26006.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL.
FT CHAIN.
FT SEQUENCE.
FT SEQUENCE 153 AA; 17295 MW; 5AF1E5B8D13C70B5 CRC64;
Query Match 64.1%; Score 384; DB 13; Length 153;
Best Local Similarity 69.8%; Pred. No. 1e-38;
Matches 74; Conservative 7; Mismatches 17; Indels 8; Gaps 1;
QY 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db |||||
49 GPETLCGAELVDALQVCGDRGFYFSKPTGYGSSRRLLHKGIVDECCFQSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRRKGS 106
Db |||||
109 CAPKPKKSARSVRAQRHTDMPKQ-----KELHLKNTSRGNT 146
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRRKGS 106
Db |||||
109 CAPKPKKSARSVRAQRHTDMPKQ-----KELHLKNTSRGNT 146
RESULT 8
Q91230
ID Q91230 PRELIMINARY; PRT; 161 AA.
AC Q91230;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15961; AAA67267.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
us-09-852-261-4.rspt
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;
Query Match 60.5%; Score 362.5; DB 13; Length 161;
Best Local Similarity 66.4%; Pred. No. 4.4e-36;
Matches 71; Conservative 11; Mismatches 22; Indels 3; Gaps 2;
QY 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db |||||
45 GPETLCGAELVDLTQFVCGERGFYFSKPTGYGSSRRSHNRGIVDECCFQSCDLRLLEY 104
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLS--THKKRKLQRRKGS 105
Db |||||
105 CAPVKSGKAARSVRAQRHTDMPKTPK-KPLSGNSHTSCKEVHKNS 150
RESULT 9
Q91476
ID Q91476 PRELIMINARY; PRT; 117 AA.
AC Q91476;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Salmo salar (Atlantic salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX NCBI_TaxID=8030;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like growth factor I prohormones in salmon.";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81904; AAA18212.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER.
FT SIGNAL.
FT CHAIN.
FT SEQUENCE 117 AA; 12867 MW; A97666EE2F526EAC CRC64;
Query Match 60.4%; Score 362; DB 13; Length 117;
Best Local Similarity 69.7%; Pred. No. 3.6e-36;
Matches 69; Conservative 9; Mismatches 19; Indels 2; Gaps 1;
QY 1 GPETLCGAELVDALQVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db |||||
19 GPETLCGAELVDLTQFVCGERGFYFSKPTGYGSSRRSHNRGIVDECCFQSCDLRLLEY 78
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLS--THKKRK 97
Db |||||
79 CAPVKSGKAARSVRAQRHTDMPKTPKNDLYLGIVTHLARR 117
RESULT 10
Q9IB10
ID Q9IB10 PRELIMINARY; PRT; 178 AA.
AC Q9IB10;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
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DR PROSITE; PS00262; INSULIN; 1.
KW Signal. 1
FT NON_TER 1 18
FT SIGNAL <1 18 POTENTIAL.
FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
FT NON_TER 145 145
SQ SEQUENCE 145 AA; 15885 MW; 3D94EDFA77268FC4 CRC64;

Query Match 60.3%; Score 361; DB 13; Length 145;
Best Local Similarity 67.3%; Pred. No. 6e-36;
Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps

QY 1 GPETLGAELVDALQFVCGPGRGFVTGVSSIRRAPQTGIVDECCFRSCDLRLLEY 60
DB 19 GPETLGAELVDTLQFVGEGRGFTFKPTGVGPSRRSHNRGIVDECCFQSCELRLLEY 78
QY 61 CVRCKPTKSARSIAQRHTDMPKTKQSQPLSTHKKRLKLR 101
DB 79 CAPVKSGKAARSVRAQRHTDMPTPKVSTAQNVDRCGTERR 119

RESULT 12
Q91162 PRELIMINARY; PRT; 155 AA.

ID Q91162
AC Q91162; TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-NOV-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_Taxid=8019;
RN [1]
RP R
RS
RX TISSUE=LIVER;
RC MEDLINE=90190659; PubMed=2628735;
RA Cao Q.P., Duguay S.J., Pilsetskaya E., Steiner D.F., Chan S.J.;
RT "Nucleotide sequence and growth hormone regulated expression of salmon
insulin-like growth factor I mRNA."
RL Mol. Endocrinol. 3:2005-2010(1989).
RN [2]
RP R
RS
RX TISSUE=LIVER;
RC MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
growth factor I prohormones in salmon."
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M61913; AAA49413.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin.1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1 1
FT SIGNAL <1 18 POTENTIAL.
FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
FT CONFLICT 73 73 R -> X (IN REF. 1).
FT NON_TER 155 155
SQ SEQUENCE 155 AA; 16968 MW; 022FD3CA39CA3160 CRC64;

Query Match 60.3%; Score 361; DB 13; Length 155;
Best Local Similarity 67.3%; Pred. No. 6.5e-36;
Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps

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QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLREMY 60
DB 19 GPETLCGAELVDLQFVCGGERGFYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLREMY 78
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRR 101
DB 79 CAPVKSGAARSVRAQRHTDMPKTPKSTAVQNVDRGTERR 119

RESULT 13
ID Q91965 PRELIMINARY; PRT; 188 AA.
AC Q91965;
DT 01-NOV-1996 (TReMBLrel. 01, Created)
DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBI_TaxID=74940;
[1]
SEQUENCE FROM N.A.
TX TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RN Mol. Endocrinol. 7:409-422(1993).
[2]
SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/Genbank/DBJ databases.
[3]
SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (SEP-1994) to the EMBL/Genbank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15960; AA67266.1; -.
DR EMBL; U14536; AA67263.1; -.
DR HSSP; P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; INSULIN.
DR PRINTS; PR00276; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 60.3%; Score 361; DB 13; Length 188;
Best Local Similarity 67.3%; Pred. No. 8e-36;
Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLREMY 60
DB 45 GPETLCGAELVDLQFVCGGERGFYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLREMY 104
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRR 101
DB 105 CAPVKSGAARSVRAQRHTDMPKTPKSTAVQNVDRGTERR 145

RESULT 14
ID P81268 PRELIMINARY; PRT; 188 AA.
AC P81268;
DT 01-AUG-1998 (TReMBLrel. 07, Created)
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DT 01-AUG-1998 (TReMBLrel. 07, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I.1 PRECURSOR (IGF-I.1) (SOMATOMEDIN).
GN IGF-I.1.
OS Oncorhynchus keta (Chum salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBI_TaxID=8018;
[1]
SEQUENCE FROM N.A.
RX MEDLINE=94296359; PubMed=8024699;
RA Kavan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA Roberts C.T. Jr., Leroith D.;
RT "Isolation of a second nonallelic insulin-like growth factor I gene
RT from the salmon genome.";
RL DNA Cell Biol. 13:555-559(1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: SECRETED.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF063216; AAC18833.1; -.
DR HSSP; P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Multigene family; Signal.
FT SIGNAL 1 ?
FT PROPEP 1 44 BY SIMILARITY.
FT CHAIN 45 114 INSULIN-LIKE GROWTH FACTOR I.1.
FT DOMAIN 45 73 B.
FT DOMAIN 74 85 C.
FT DOMAIN 86 106 A.
FT DOMAIN 107 114 D.
FT PROPEP 115 188 E PEPTIDE.
FT DISULFID 50 92 BY SIMILARITY.
FT DISULFID 62 105 BY SIMILARITY.
FT DISULFID 91 96 BY SIMILARITY.
SQ SEQUENCE 188 AA; 20792 MW; FACEB6D05E0F24B8 CRC64;

Query Match 60.3%; Score 361; DB 13; Length 188;
Best Local Similarity 67.3%; Pred. No. 8e-36;
Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLREMY 60
DB 45 GPETLCGAELVDLQFVCGGERGFYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLREMY 104
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRR 101
DB 105 CAPVKSGAARSVRAQRHTDMPKTPKSTAVQNVDRGTERR 145

RESULT 15
ID Q91161 PRELIMINARY; PRT; 116 AA.
AC Q91161;
DT 01-NOV-1996 (TReMBLrel. 01, Created)
DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBI_TaxID=8019;
[1]
SEQUENCE FROM N.A.
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RC TISSUE=LIVER;
RX MEDLINE=90190659; PubMed=2628735;
RA Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT "Nucleotide sequence and growth hormone regulated expression of salmon
inulin-like growth factor I mRNA";
RL Mol. Endocrinol. 3:2005-2010(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
growth factor I prohormones in salmon";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81911; AAB59947.1; -.
DR HSP; P01343; IGFL.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1 1
FT SIGNAL <1 18 POTENTIAL.
FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
FT NON_TER 116 116
SQ SEQUENCE 116 AA; 12697 MW; C5F378915179D89D CRC64;
Query Match 60.1%; Score 360; DB 13; Length 116;
Best Local Similarity 65.1%; Pred. No. 6.3e-36;
Matches 69; Conservative 10; Mismatches 19; Indels 8; Gaps 2;
QY 1 GPETLGGAEIVDALQVCGPRGFYFNKPTVYGSSIRAPQTGIVDECCFSCDLRELEY 60
Db 19 GPETLGGAEIVDTLQVCGERGFYFSKPTGYGFPSSRRSHNRGIVDECCFSCDLRELEY 78
QY 61 CVRCKPTKSARSIRQRHTDMPKTSQPLSTHKRKLQRRKRGST 106
Db 79 CAPVKSGLAARSVRQRHTDMPRT----PKEVHQKNS-----SRGNT 116

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time : 20.7289 secs

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